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UNITED STATES DEPARTMENT OF AGRICULTURE
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FOREST SERVICE
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INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION

A GRAPHIC SUMMARY OF GRAZING ON THE PUBLIC LANDS OF THE INTERMOUNTAIN REGION

PART I. REGIONAL ASPECTS OF RANGE RESOURCES AND TRENDS IN RANGE USE

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The range lands of the Intermountain Region[1] can be divided into three types according to their seasonal use. They are: (1) the winter ranges lying at the lower elevations and desert or semidesert in character; (2) the summer ranges confined largely to the higher elevations; and (3) the spring-fall ranges which lie between the desert winter ranges and the mountainous summer ranges. Generally speaking, a combination of these three types of range is necessary for the year-round operation of livestock, except in the case of cattle which are commonly wintered on hay. The relationship of these seasonal ranges is extremely important from the standpoint of balanced yearlong range livestock production by farms and ranches.

Large acreages of the winter, spring-fall, and summer ranges are in public ownership and administered by the Forest Service and the Grazing Service.[2] The ranges of the national forests of the region are used principally in the summer from June through October. The sheep use on the grazing districts is principally winter and spring-fall, 45 percent of the grazing is during the winter months, December to April, and 41 percent during the spring and fall. The cattle use on the districts is quite different, 45 percent of the grazing is taken during the summer and 40 percent in the spring and fall. The range land that is in private ownership is used largely for spring-fall and summer range for both sheep and cattle.

1/ The term "Intermountain Region" used herein refers to U. S. Forest Service Region 4. This region includes Idaho north to the Salmon River, Utah, Nevada except the extreme western edge, and western Wyoming.

2/ Acknowledgement is made to the Regional Graziers of the U. S. Grazing Service who furnished much of the data used for the grazing districts.

Planning for the use of the public grazing lands in the Intermountain Region requires an inventory of the different kinds of land resources and of the relationships of these lands to each other in the year-round livestock operation. There are a large number of public land grazing permits for farm flocks of sheep and farm herds of cattle in this region. This fact, along with the use of farm feeds by stock ranch operations, makes for a close land use tie between the farm pastures and crops of the irrigated districts and the seasonal ranges of the public lands. In many instances these land use relationships can be depicted and studied by localities or areas, such as the relationship of a national forest, a grazing district, and an irrigated valley for livestock production. In some situations the policies for the use of public land can be developed by groups of local public land users, but the policies for certain uses, such as watershed uses, may involve farm and ranch operators too widely separated to form a planning group. Furthermore, much of the grazing use of the public lands in this region is now organized on a basis of long distance trailing between seasonal ranges. These conditions require that planning for the grazing use of a forest or a grazing district consider the economy of both the local and the broad land use relationships.

Inventory data needed in planning for the proper use of the grazing resources of the Intermountain Region have been compiled and are graphically portrayed in this report (part I), and in parts II and III which will follow. The purpose of this graphic presentation is to show the grazing resources, the trends in use, present use, and distribution of use of the public lands of the Intermountain Region. This material is prepared for administrators of public lands, state and county planning

groups, and agencies engaged in economic and social research. This report, (part I), presents the range resources and trends in range use for the entire region. Part II will show the range resources and trends in use of the 24 national forests and 19 federal grazing districts of the region. This will bring out more of the local or area aspects of the different types of public land for livestock production. Part III of this graphic summary will show the present distribution of the public land grazing resources to the different sizes and types of livestock enterprises. This will be presented by individual forests and grazing districts.

The information presented is compiled from the annual grazing reports of the national forests, the private land use information furnished to national forest administration by grazing permittees, the license data of the Grazing Service, the U.S. Census of Agriculture and certain other sources.

Grazing district license data apply only to use of grazing lands under the jurisdiction of the Grazing Service. In many cases varying amounts of privately owned lands are used in conjunction with the range administered by the Grazing Service. The data presented in part I do not include private land used in connection with grazing licenses, trailing permits, or unregulated public domain.

In the compilation of this material, the term "animal-unit" means one head of cattle over 6 months old, one horse, five sheep, or five goats. The term "animal-unit-month" as used here signifies the grazing furnished one head of cattle, one horse, five sheep, or five goats for one month. The terms "cattle month" and "sheep month" are used to describe a month of grazing or other feed for one head of cattle or one ewe, respectively.

Highlights

Only 3 percent of the 178,500,000 acres of the Intermountain Region is cultivated land while the remainder is principally range and forest land. Seventy-three percent is in public ownership. Of the public land, 43 percent is in federal grazing districts and 17 percent is in national forests.

The privately owned range and crop lands provide approximately 70 percent of the present annual feed for the beef cattle numbers of the region, the grazing districts provide 20 percent, and the national forests account for 10 percent. The comparable figures for sheep are 60, 30, and 10 percent, respectively.

About 90 percent of the sheep of the region make some use during the winter or spring-fall months of the desert ranges of the grazing districts; one-third of the sheep have summer range on the national forests. The privately owned range lands and the farm pastures are important in the summer grazing of sheep. Only a small percentage of the sheep are maintained on hay during the winter. About 50 percent of the beef cattle of the region make some use of the grazing districts, and 25 percent have forest permits. The cattle use on the grazing districts is largely summer and spring-fall, but with some winter use. The winter maintenance of cattle is principally on hay and privately owned winter pastures. There are more animal units of sheep than cattle on the national forests, but due to the longer season for cattle, the animal unit months of use for each kind of stock is approximately the same.

Fourteen percent* of the farms in the region have grazing permits on the national forests. The number of grazing licenses on the grazing districts is about the same as the number of permits on the national forests. The large number of permits on the Utah forests indicates the extent to which these forests are used by farm livestock enterprises. Most of these small farm permits are for cattle, but on some of the Utah forests cooperative range bands of farm flock sheep are important users.

The average size of license on the grazing districts is more than twice the average size of permit on the national forests, but the large number of licenses relative to the number of livestock grazed on some of the grazing districts, similar to some of the national forests, shows the importance of these grazing districts to the nearby farm livestock enterprises. Some of the forests and grazing districts maintaining the largest number of livestock do not have a large number of grazing permits, and some of the forests and grazing districts that maintain a relatively small number of livestock have a large number of permits. The distribution of the public land use of the region to the different sizes of livestock enterprises has been carried to extremes at both ends of the scale.

The trend of grazing use on the national forests of the region has been sharply downward during the past 15 years. The reduction in numbers grazed on the forests during the past 15-year period has been 16 percent for sheep and 28 percent for cattle. Along with this reduction in numbers, there has been a shortening of the season of use by about one-half of a month for both sheep and cattle. This reduction of numbers and the shortening of seasons on the forests during the 15-year period covered by the trend data shown in this report has caused a

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* Based on 1935 U. S. Census of Agriculture figures.

reduction in animal months of feed amounting to 36 percent for cattle and 33 percent for sheep. The shortening of the average grazing season for sheep by one-half a month has been of especial significance in reducing total sheep months use, since the grazing season is shorter for sheep than for cattle.

The average size of cattle permit on the national forests of the region has increased slightly during the past 15 years. There has been a downward trend in the average size of the sheep permits on the national forests of the region. This has been due principally to an increase in the number of sheep and of permits in the farm flock and single range band ownerships and the reduction in sheep on the forests owned by permittees with permits for more than 4,000 sheep.

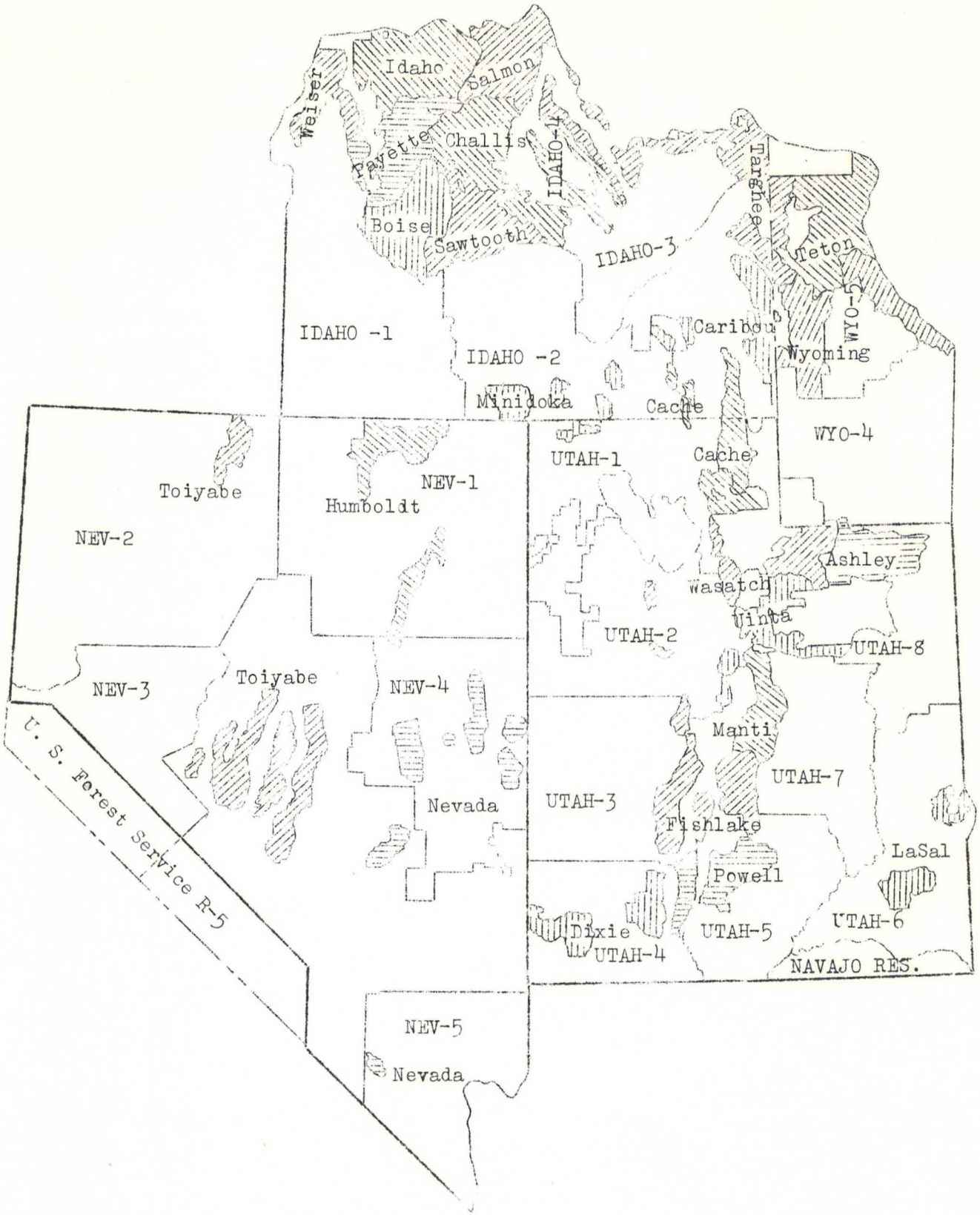


Figure 1. Location of the National Forests and Grazing Districts in U. S. Forest Service Region 4.

About three-fourths of the region is in public ownership.
Ninety-seven percent is range, timber, or unused land.

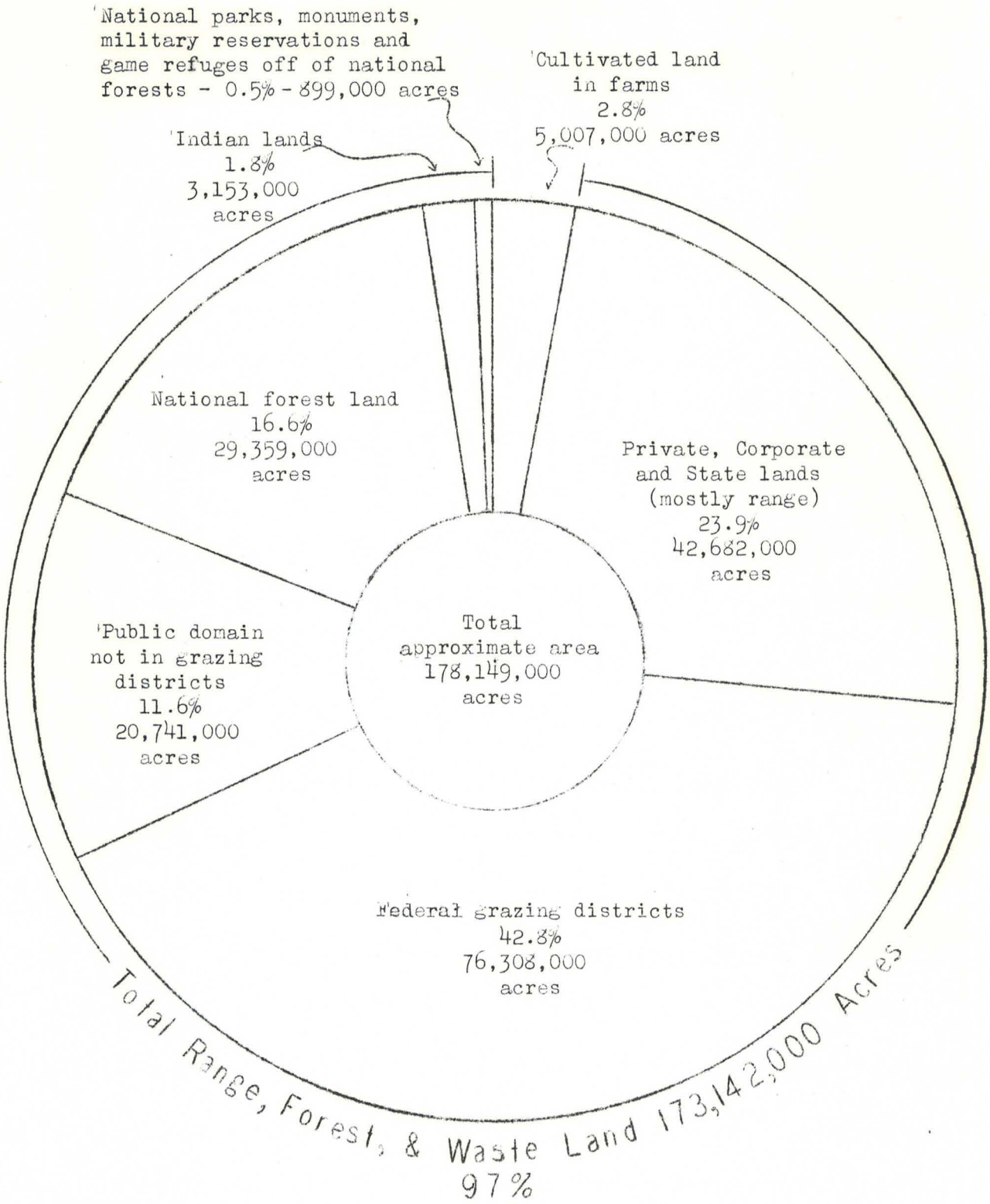
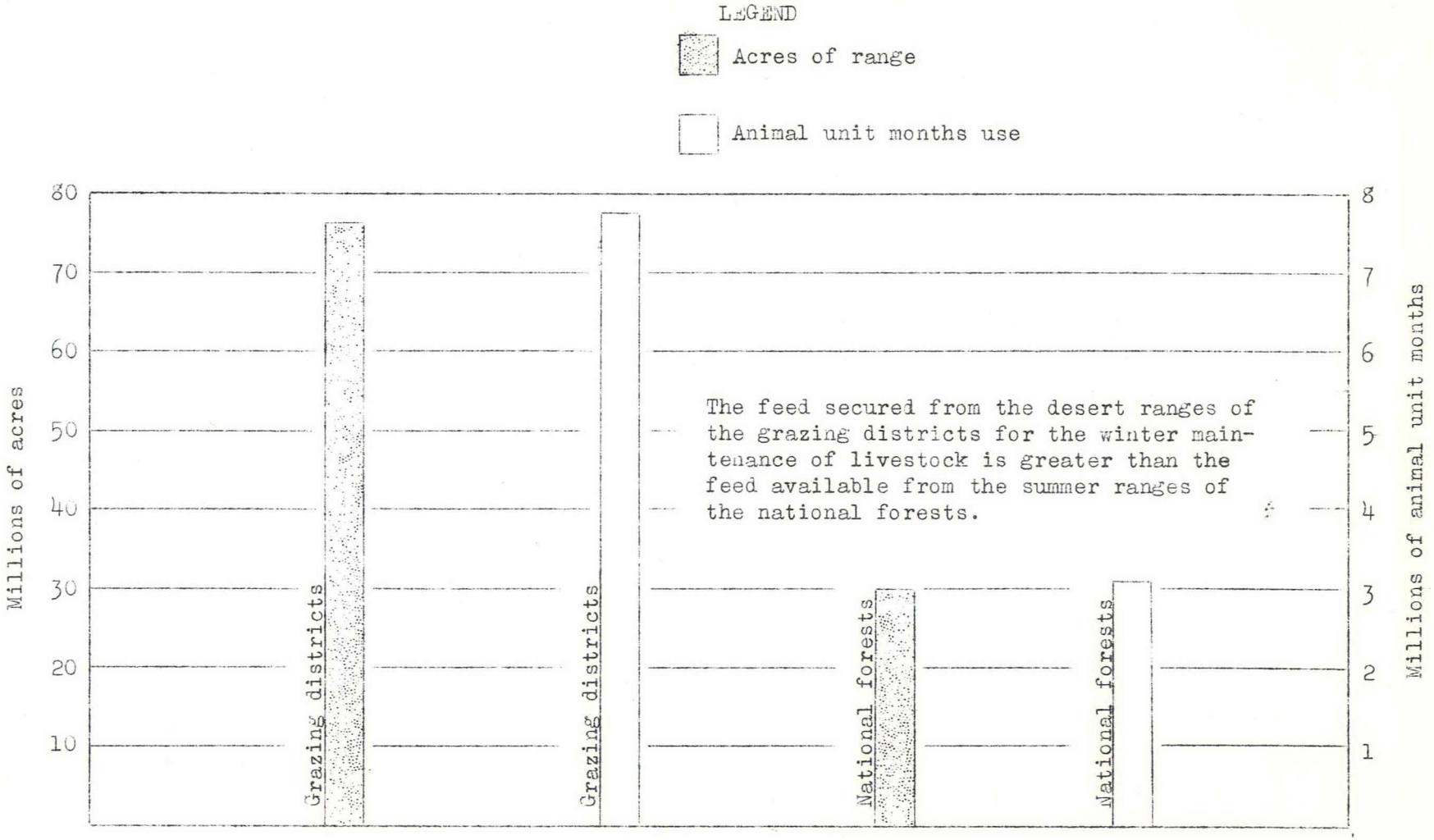

National parks, monuments, military reservations and game refuges off of national forests - 0.5% - 899,000 acres
Cultivated land in farms 2.8% 5,007,000 acres
Indian lands 1.8% 3,153,000 acres
National forest land 16.6% 29,359,000 acres
Private, Corporate and State lands (mostly range) 23.9% 42,682,000 acres
Public domain not in grazing districts 11.6% 20,741,000 acres
Total approximate area 178,149,000 acres
Federal grazing districts 42.8% 76,308,000 acres
Total Range, Forest, & Waste Land 173,142,000 Acres 97%

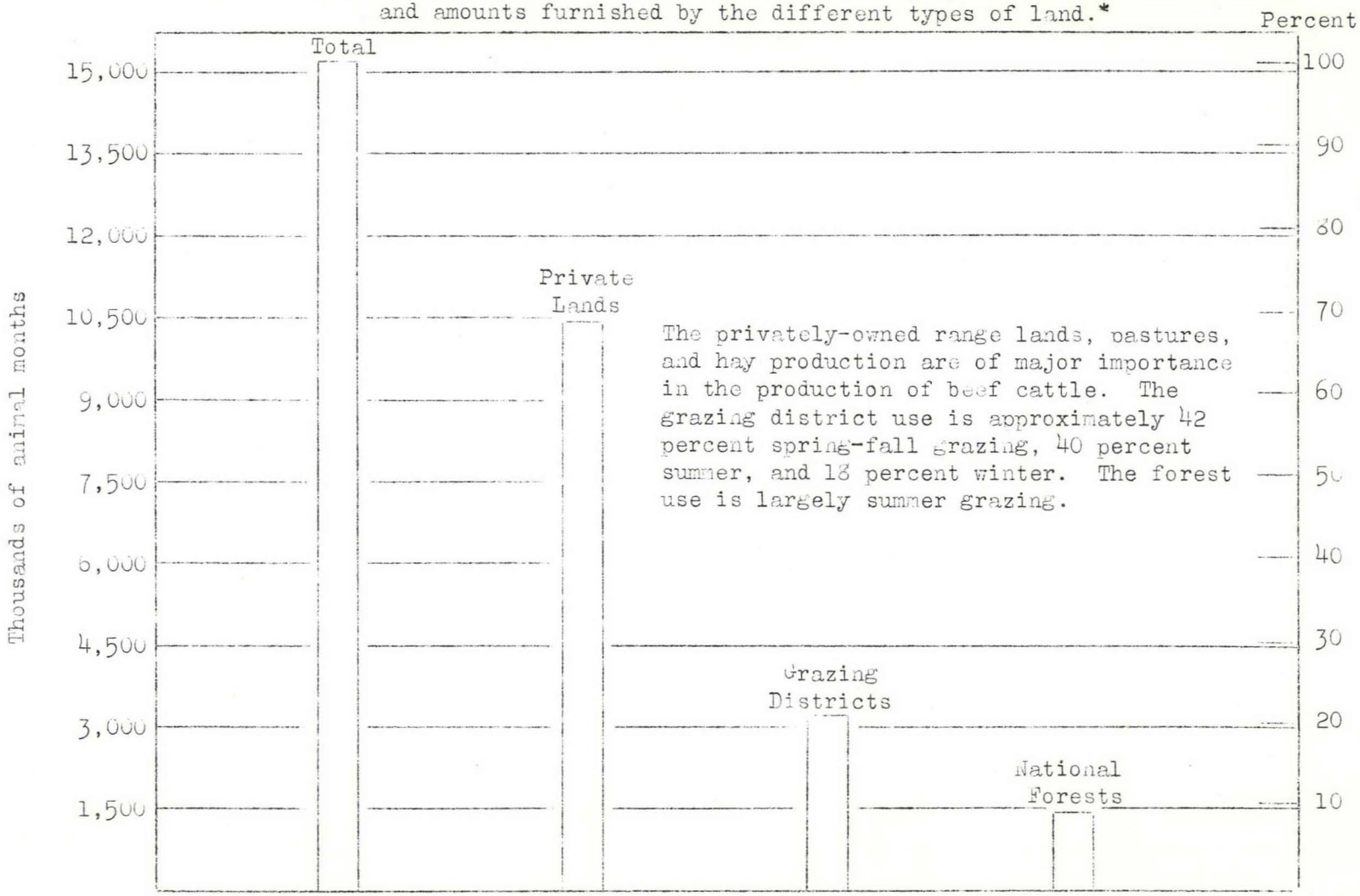
Figure 2.- Land ownership and use in the Intermountain Region.

Figure 3.- A comparison of millions of acres and total animal unit months of permittee use on the national forests and grazing districts of Region 4.*



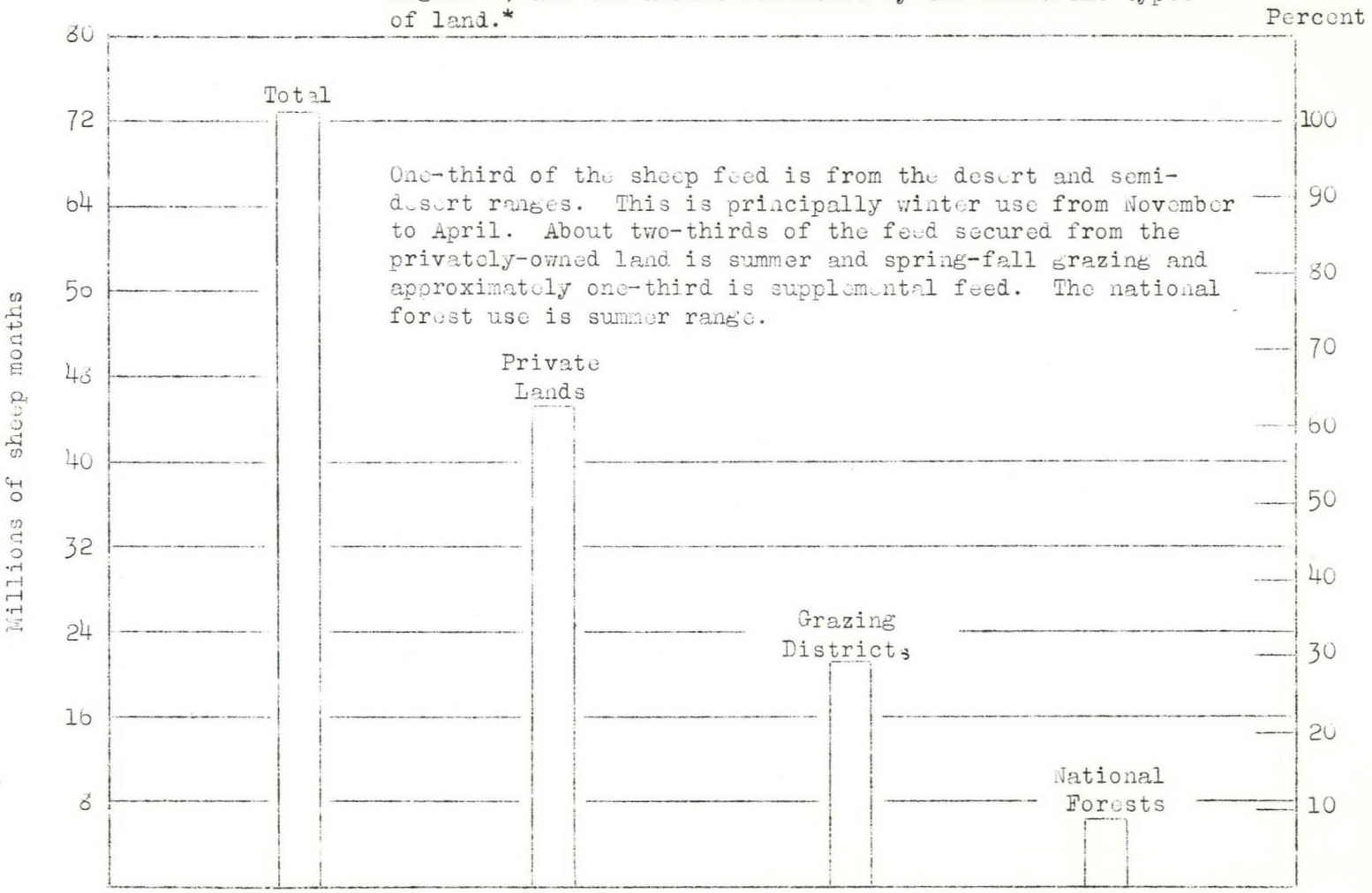
* Based on 1939-40 license data used for grazing districts. Sheep months of use divided by five equal animal unit months. 1938 permit data on national forests.

Figure 4.- Total cattle months of feed required annually by beef cattle in Region 4, and amounts furnished by the different types of land.*



* Based on 1935 Census data for cattle "other than cows milked", 1939-40 license data for the grazing districts, and 1938 national forests permit data.

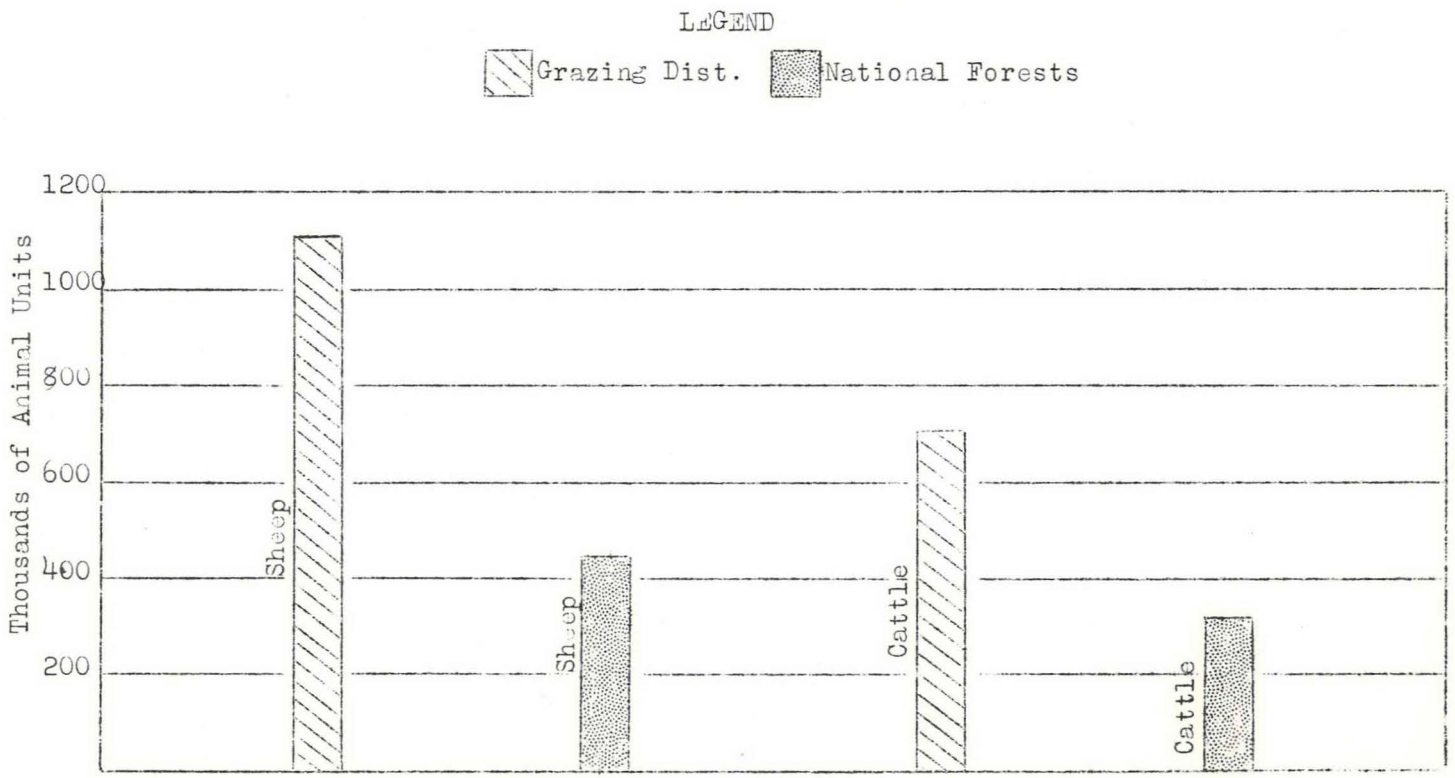
Figure 5.- Total sheep months of feed required by the sheep population of Region 4, and the amount furnished by the different types of land.*



* Based on 1935 Census of sheep numbers, 1939-40 license data for grazing districts and 1938 permit data for the national forests.

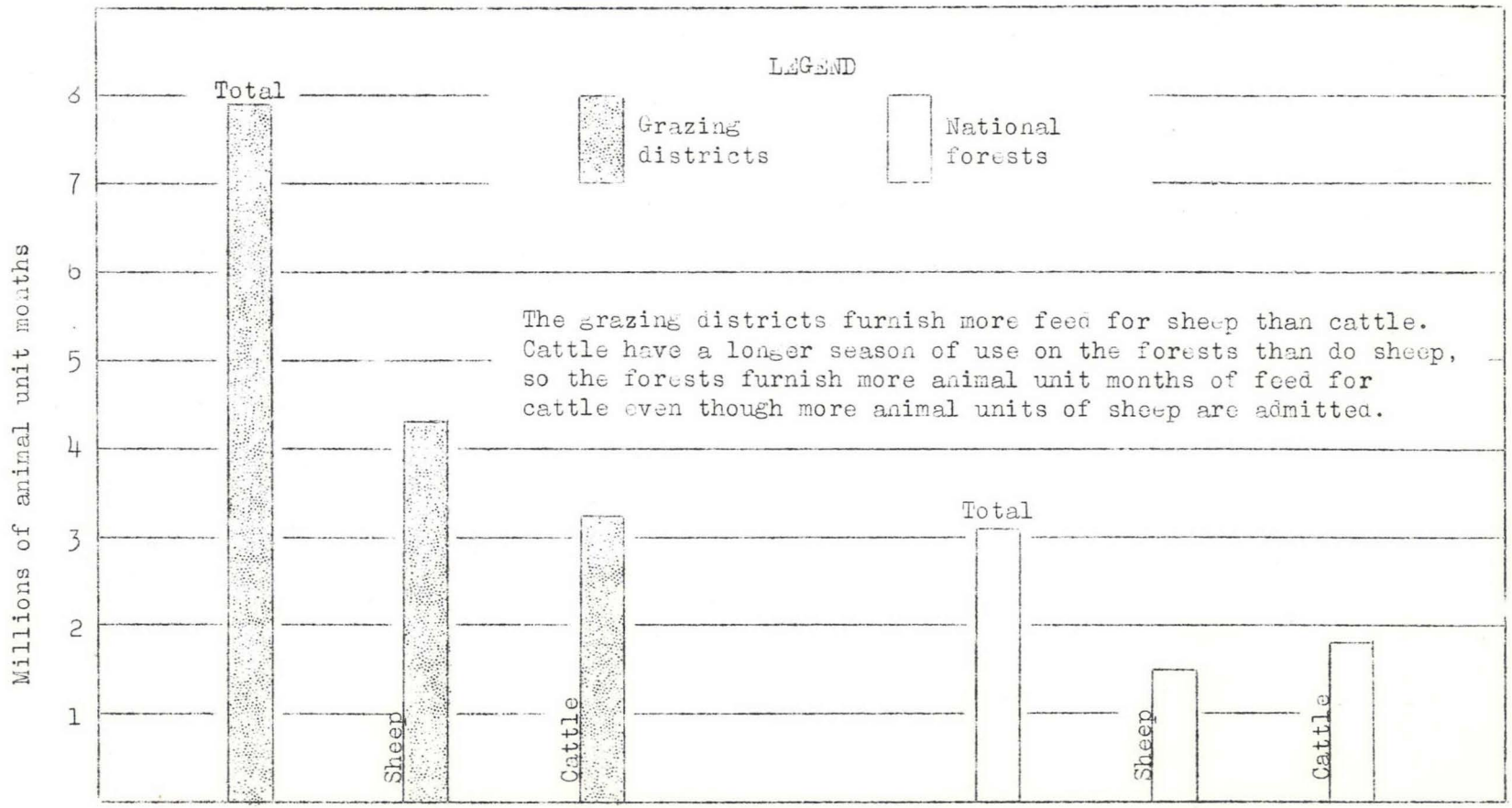
Figure 6. Animal units of cattle and sheep permitted on the grazing districts and the national forests of region 4,* 1938.

Sheep lead cattle on both grazing districts and national forests in animal units admitted for grazing.



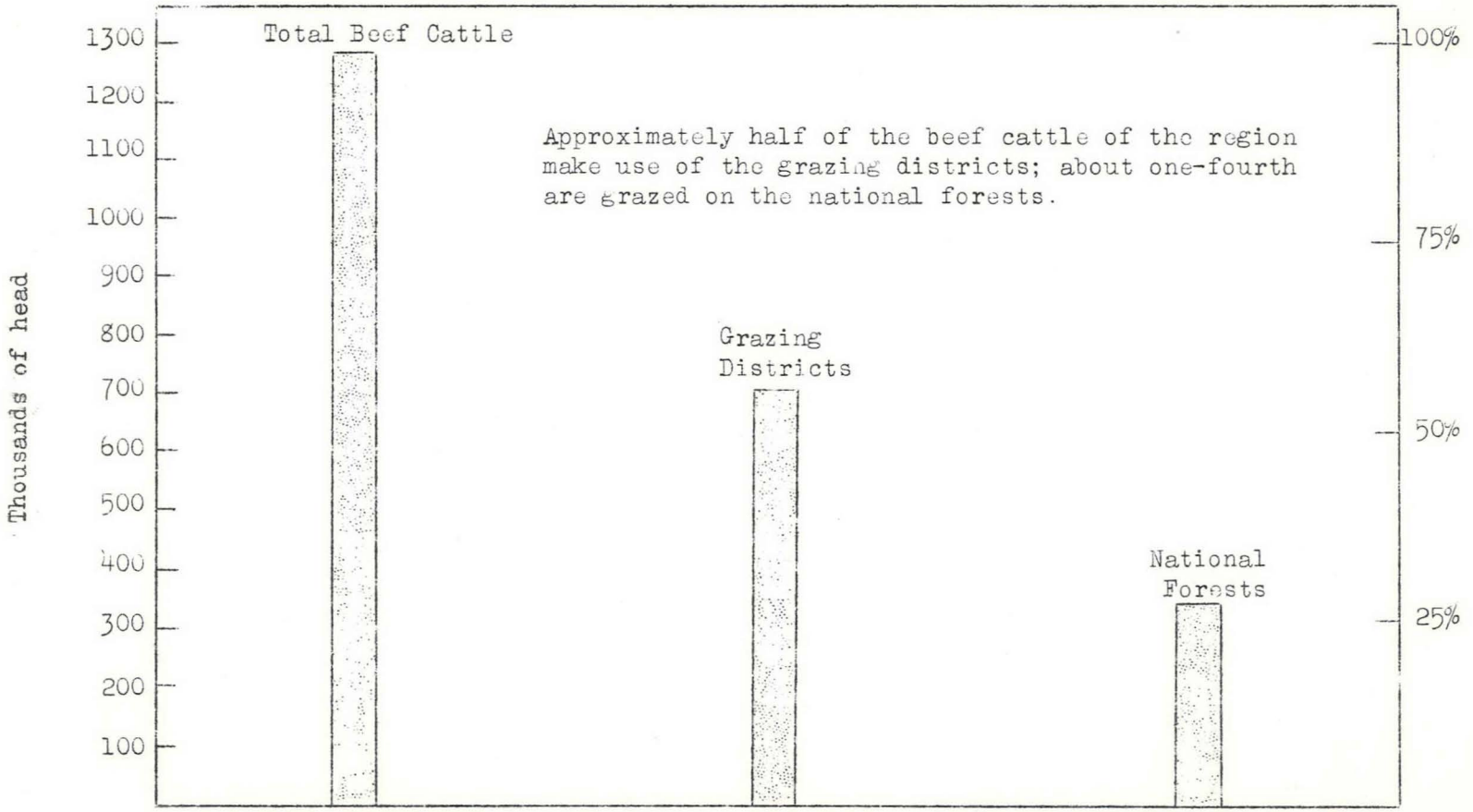
* Sheep numbers divided by five.

Figure 7.- Sheep, cattle, and total animal unit months of permitted use on the grazing districts and national forests in Region 4.*



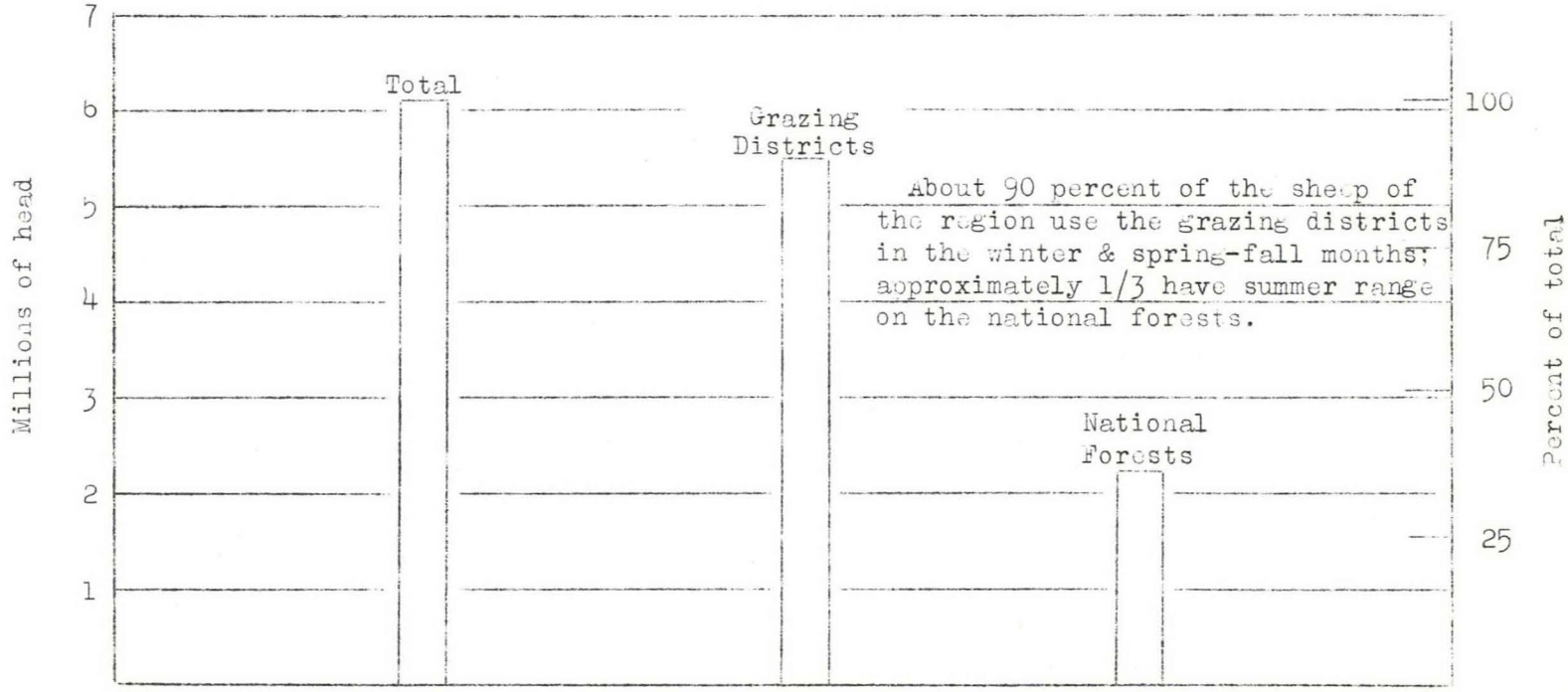
* Based on 1938 permit data on the national forests and on 1939-40 license data on the grazing districts; sheep numbers divided by fire.

Figure 8. Number of Beef Cattle, Number Permitted on the Grazing Districts, and Number permitted on the National Forests in Region 4.*



* Number of Beef Cattle obtained from 1935 U. S. Census, number on grazing districts for 1938, and number on the national forests for 1938.

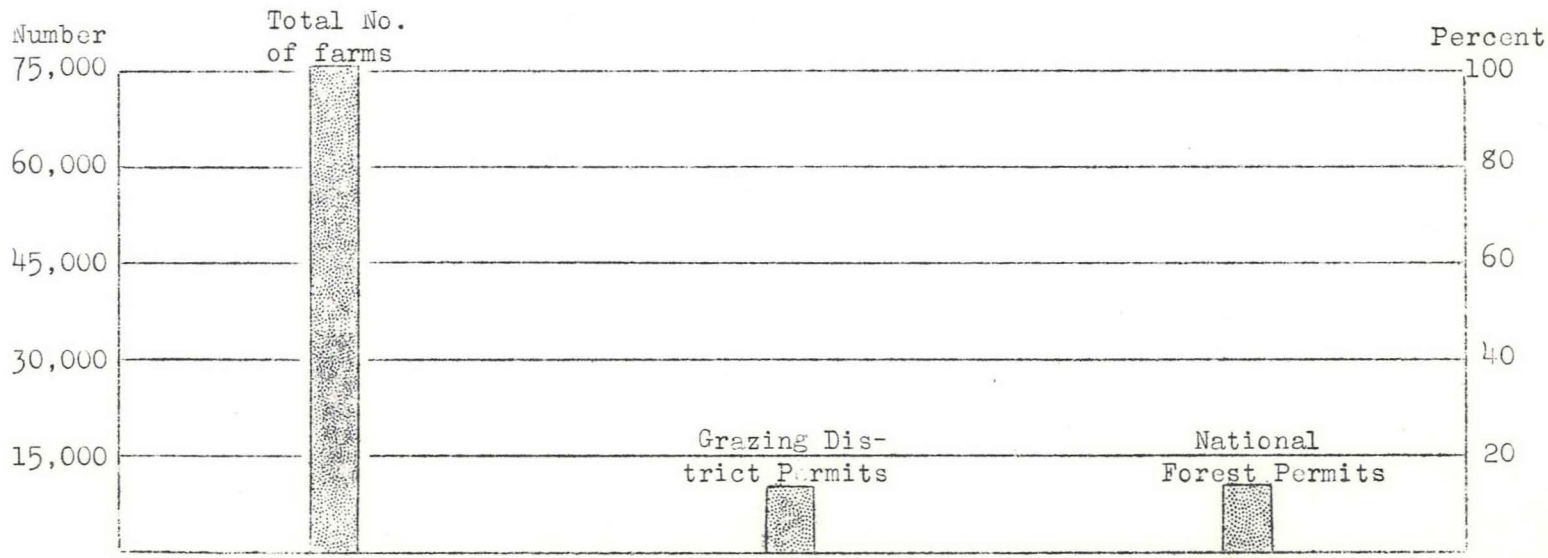
Figure 9.- Total number of sheep, number of sheep permitted on the grazing districts, and number of sheep permitted on the national forests in Region 4.*



* Number of sheep obtained from 1935 U.S. Census, number of sheep on grazing districts from 1938 license data, and number of sheep permitted on the national forests for 1938.

Figure 10. Total number of farms, and the number of permits on the grazing districts and on the national forests in Region 4.*

Many permittees use both the forests and the grazing districts. About 18 percent of the total number of farms of all kinds in the region make use of the public lands for livestock grazing.



* Number of farms obtained from 1935 U. S. Census, number of permits on the grazing districts for 1938, and number of permits on the national forests for 1938.

Figure 11. Number of livestock permits on the national forests of Region 4, 1938.

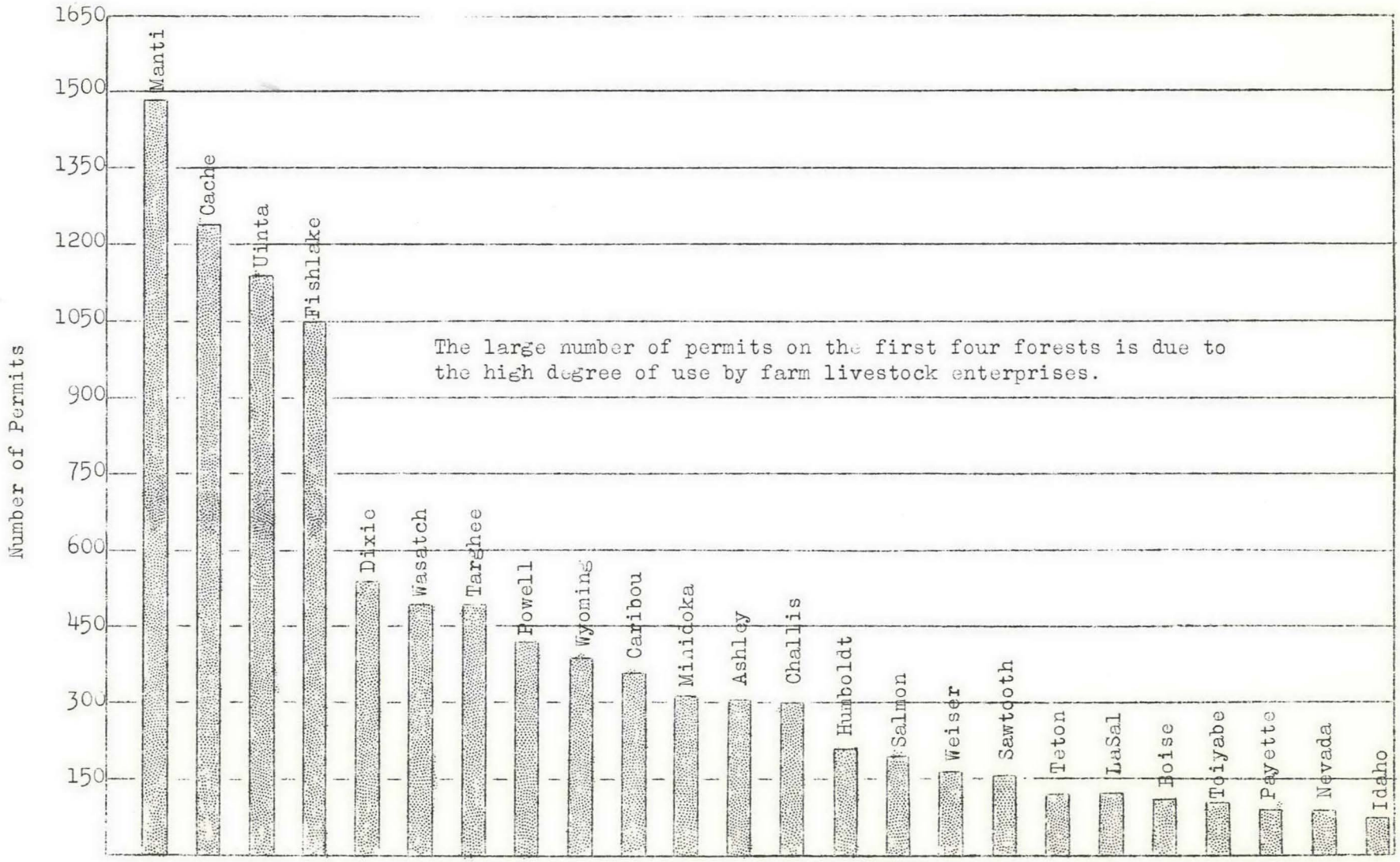


Figure 12. Number of grazing licenses on the Federal grazing districts in Region 4, 1938.

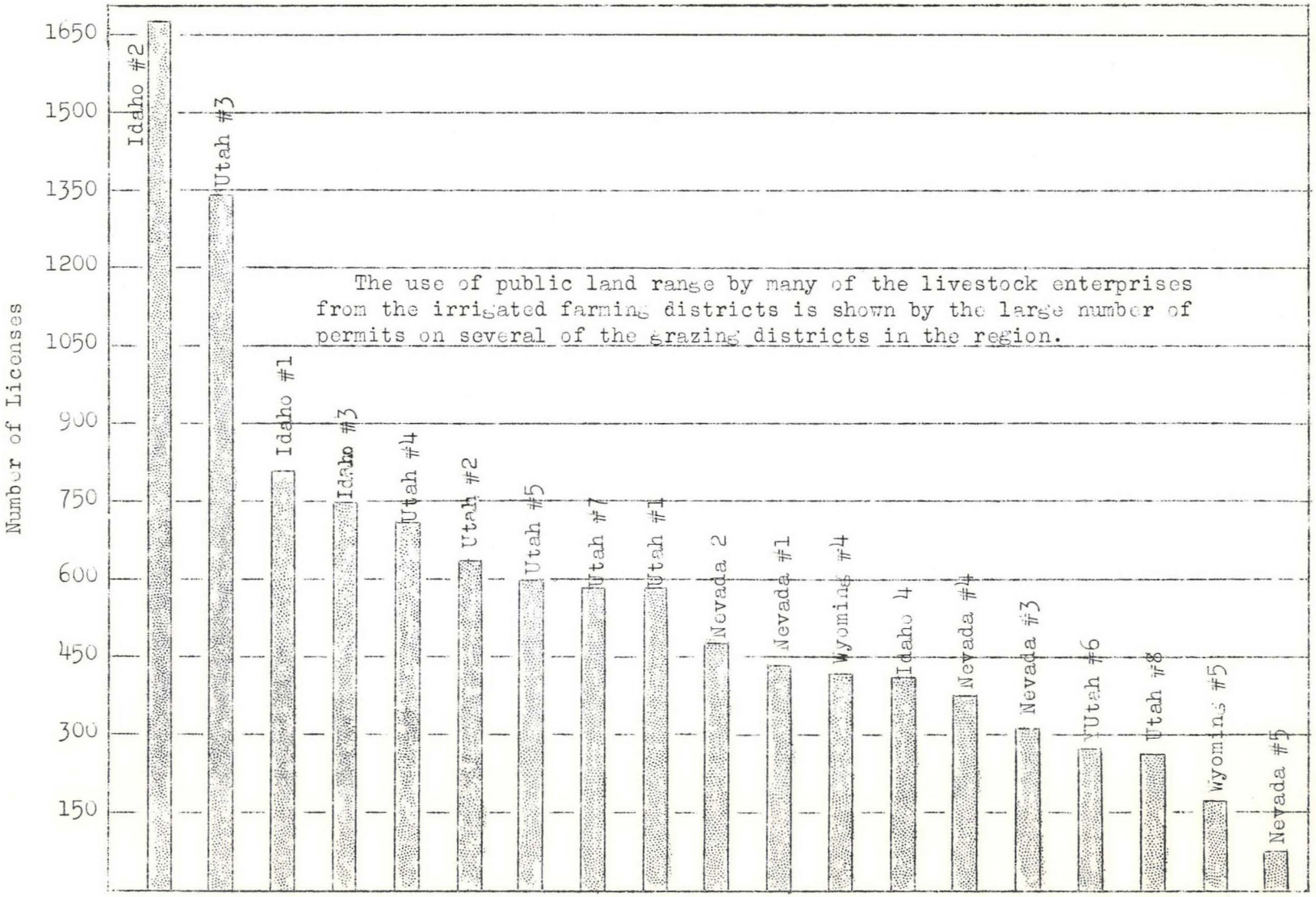


Figure 13.- Number of cattle permits on the national forests of Region 4, 1938.

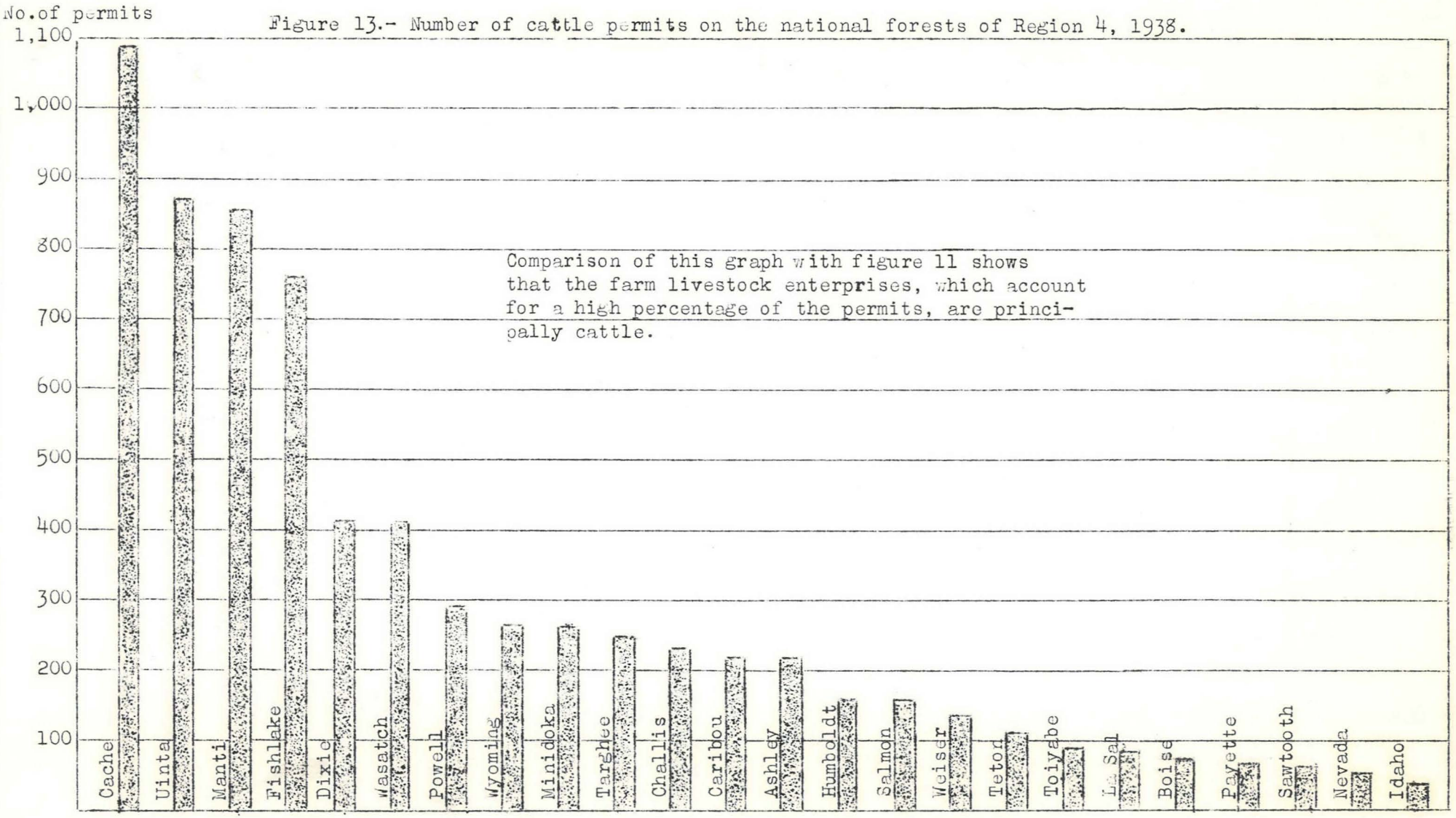


Figure 14.- Number of sheep permits on the national forests of Region 4, 1938.

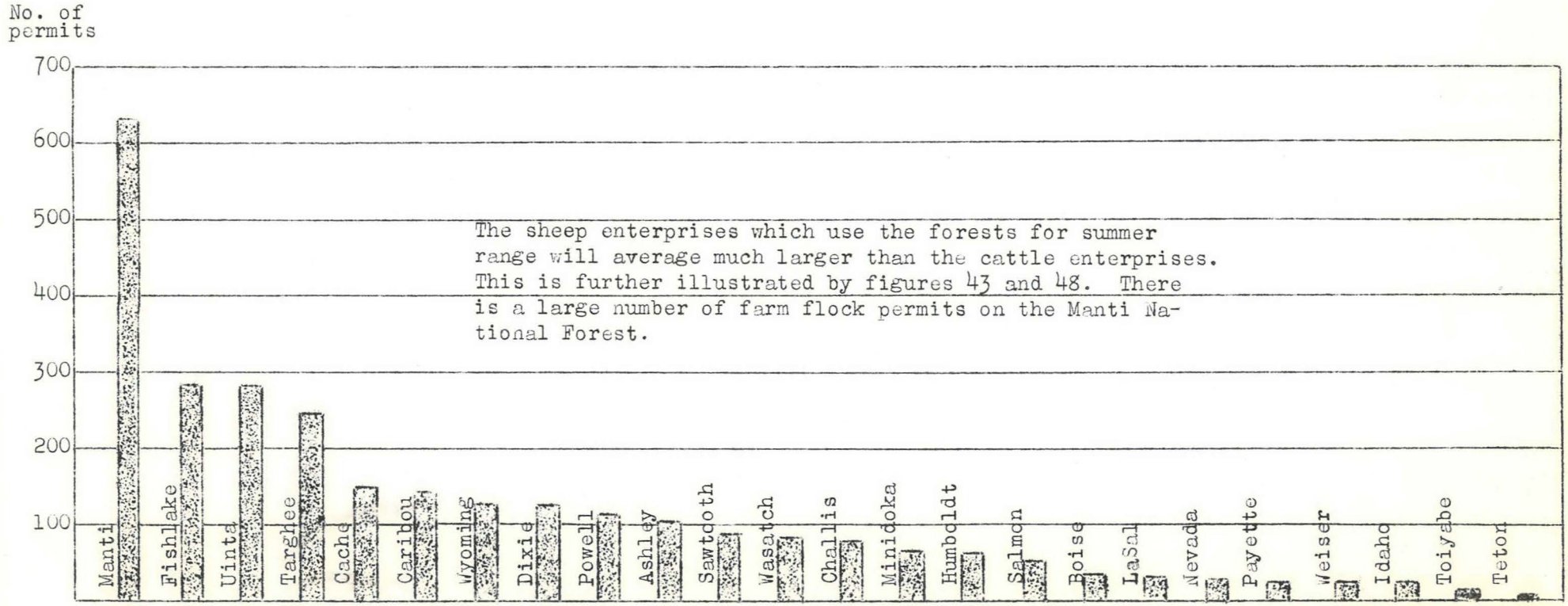


Figure 15.- Size of the national forests of Region 4 in net acreage, 1938.

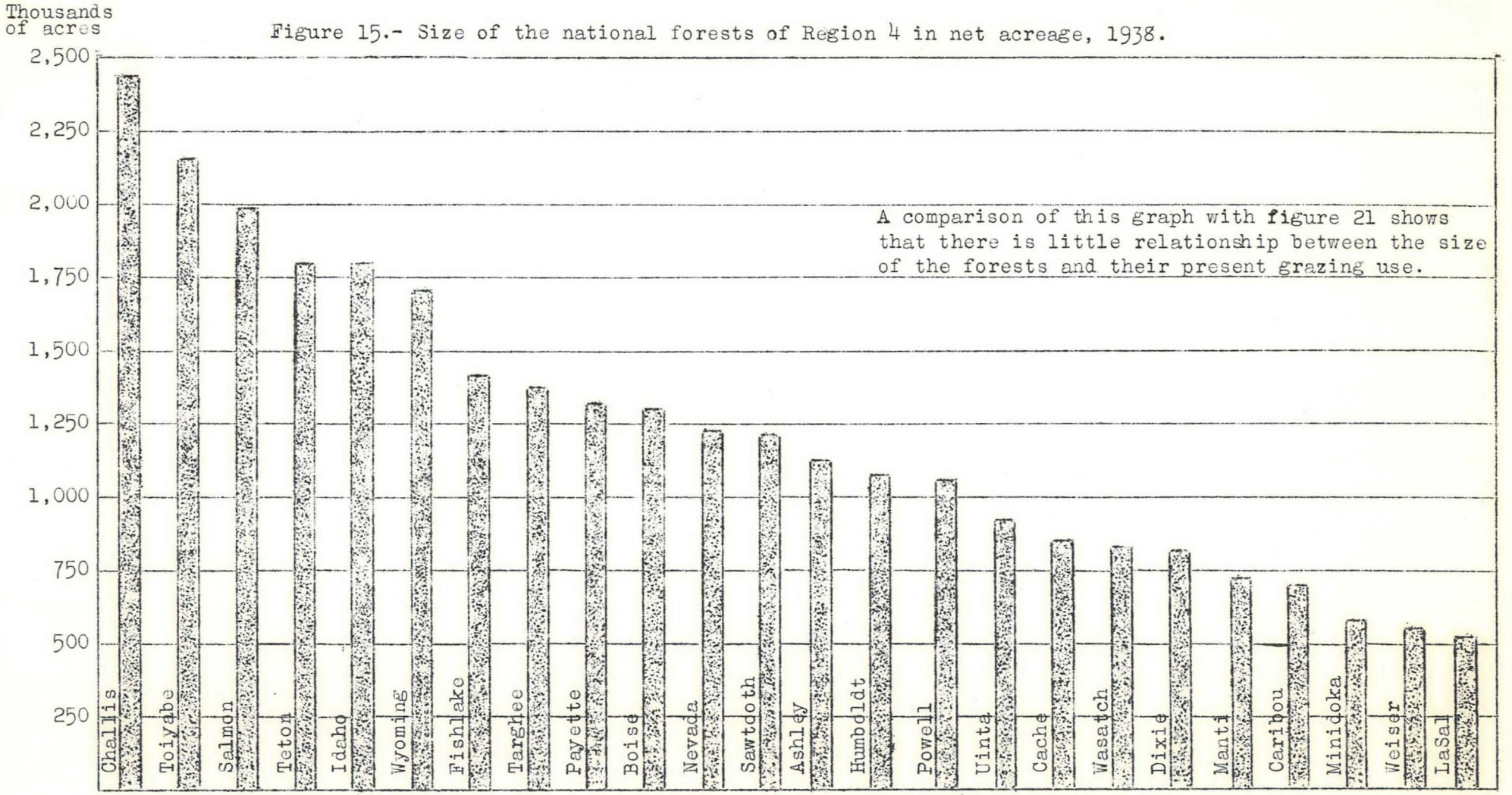
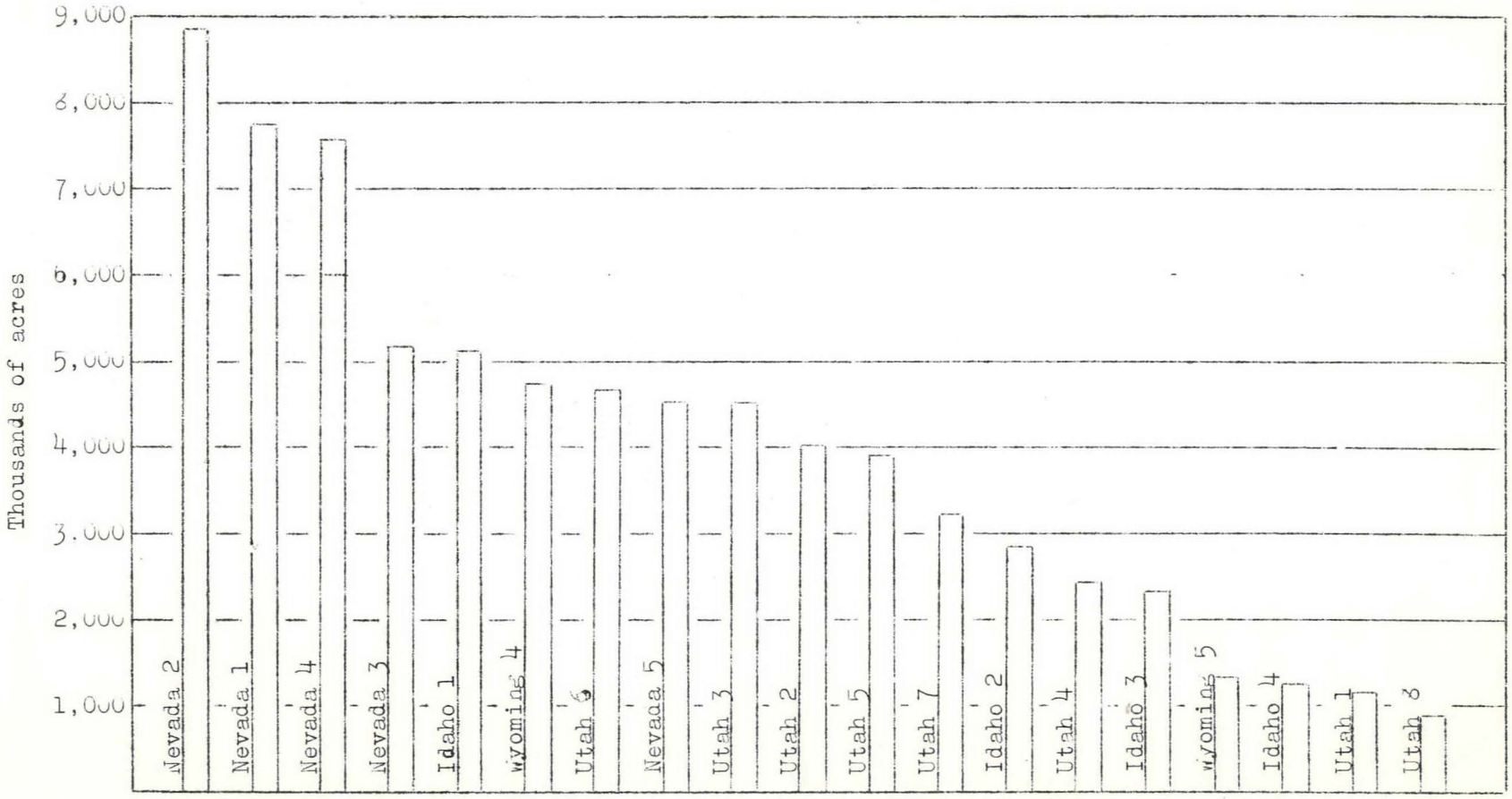


Figure 16. Net public domain acreage of the grazing districts in Region 4, 1939.*



* Source: "Vacant Public Lands," Information Bulletin, 1939 Series, No. 4 U.S. Dept. of the Interior; supplemented by data furnished by the District Graziers of the U.S. Grazing Service.

Figure 17. Number of Cattle Permitted on the National Forests of Region 4, 1938.

Comparison of this graph with figure 13 shows that certain of the forests lead in cattle use but do not have a large number of cattle permits. These forests are used principally by range livestock enterprises.

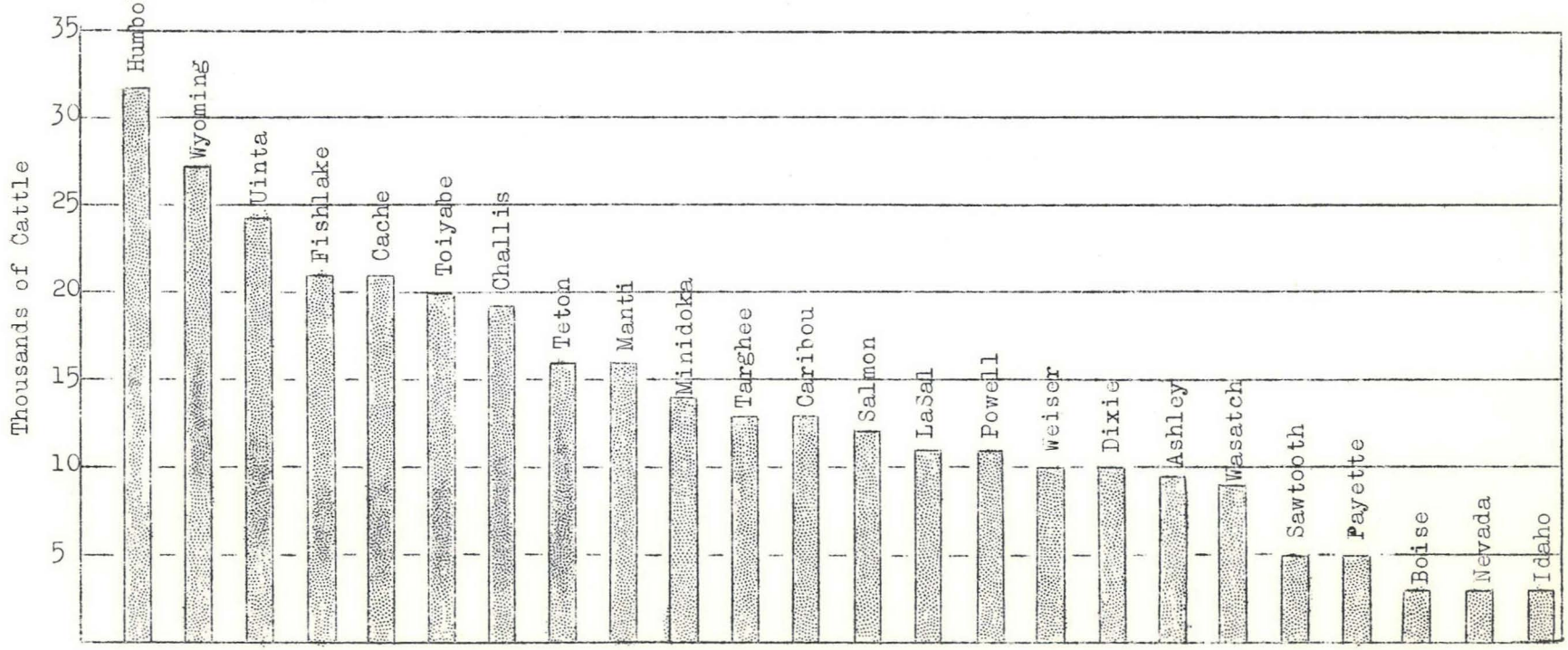


Figure 18. Number of Sheep Permitted on the National Forests of Region 4, 1938.

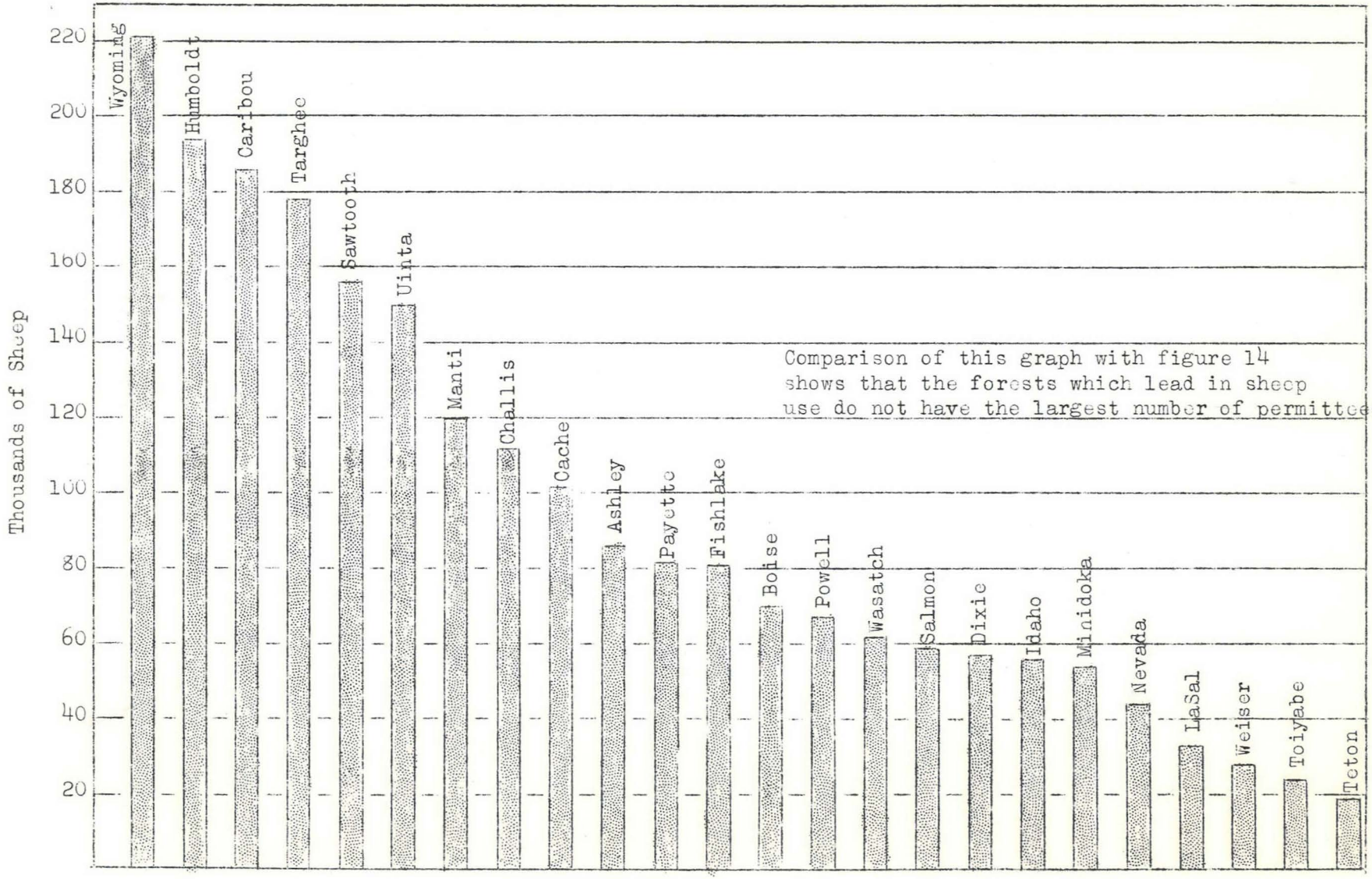


Figure 19. Number of cattle licensed on the grazing districts in Region 4, 1938.

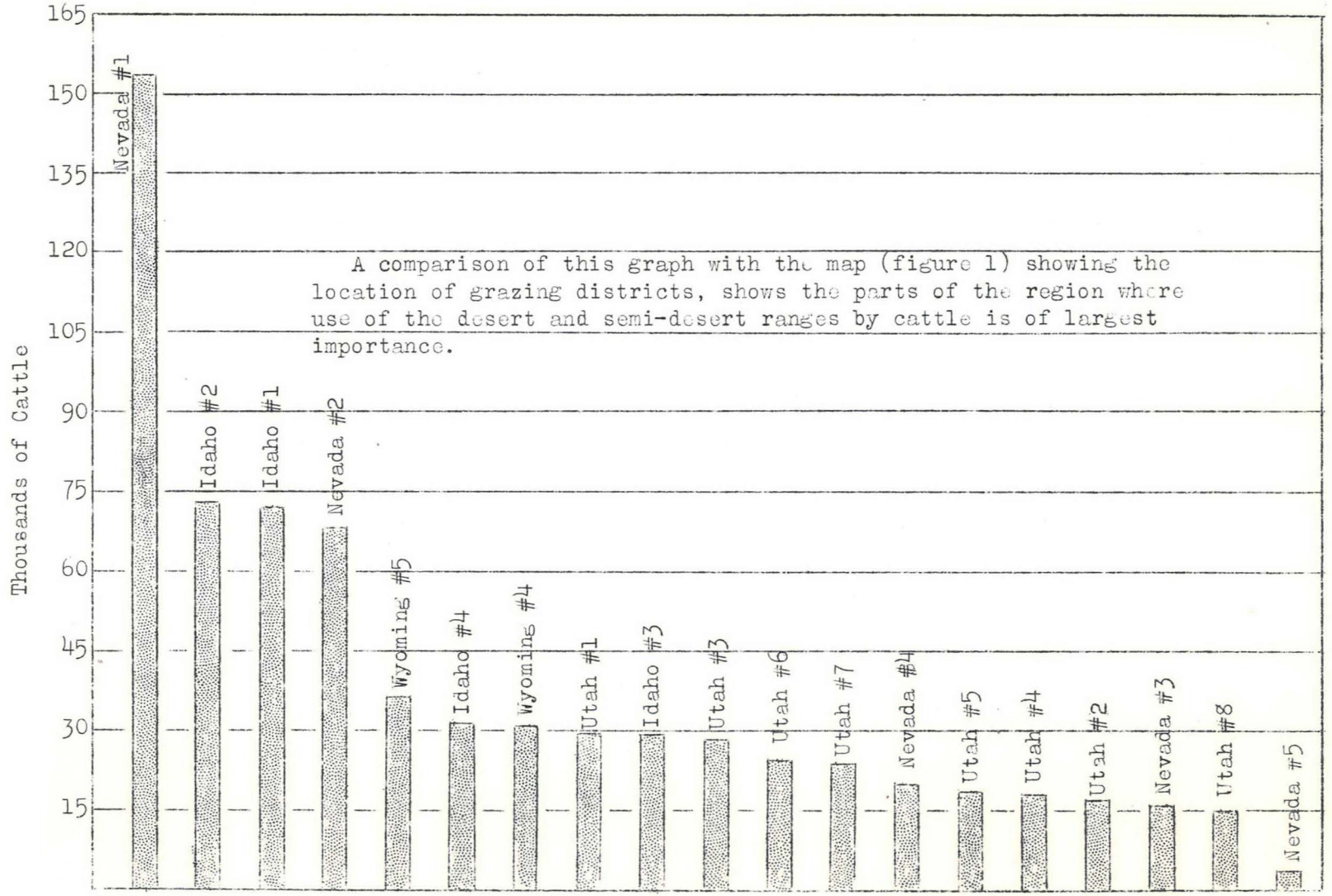


Figure 20. Number of sheep licensed on the grazing districts in Region 4, 1938.

A comparison of this graph with the map (Figure 1) showing the location of grazing districts, gives a comparison of the relative importance in the use of the desert ranges by sheep for different parts of the region.

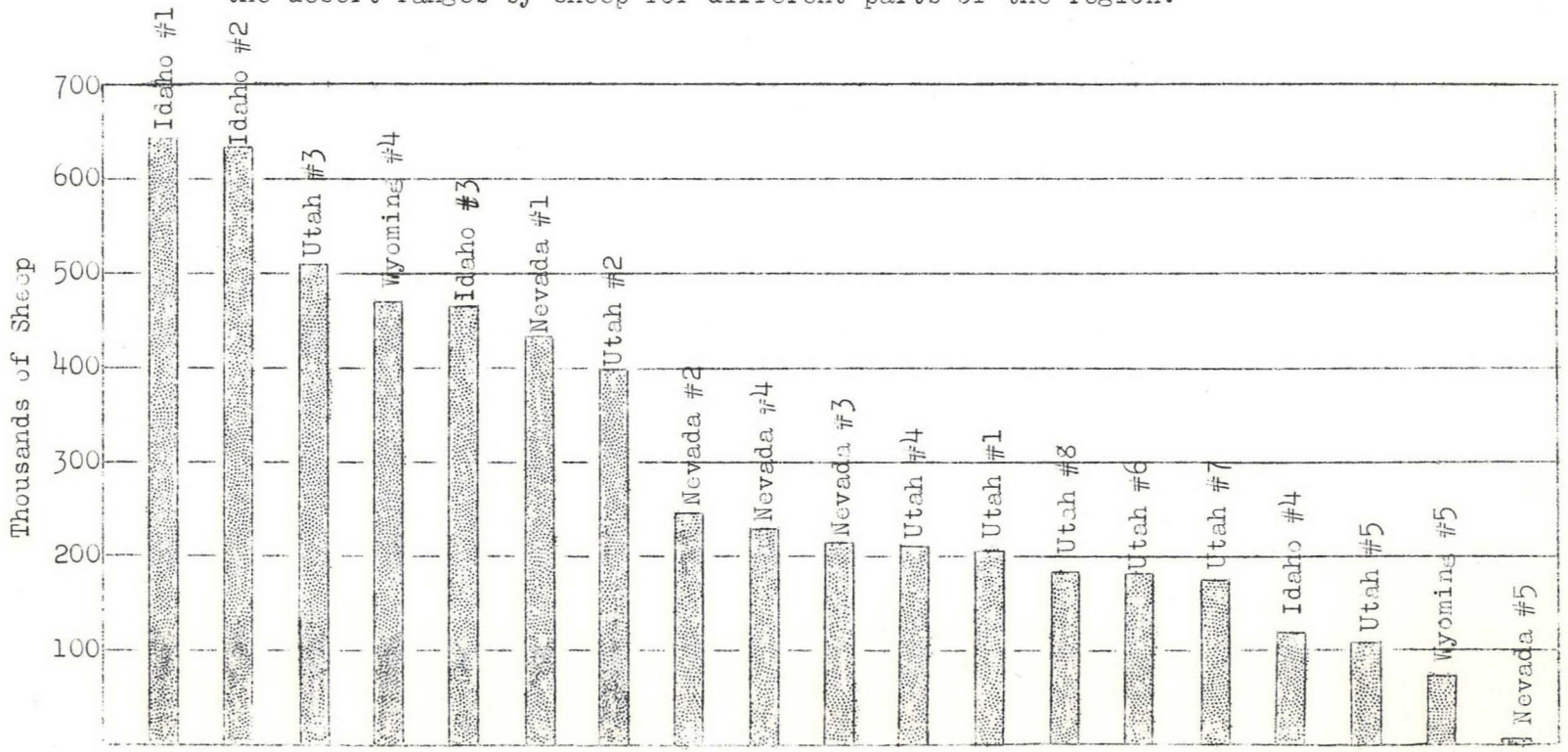


Figure 21. Total Animal Unit Months of permitted use on the national forests of the Intermountain Region, 1938.

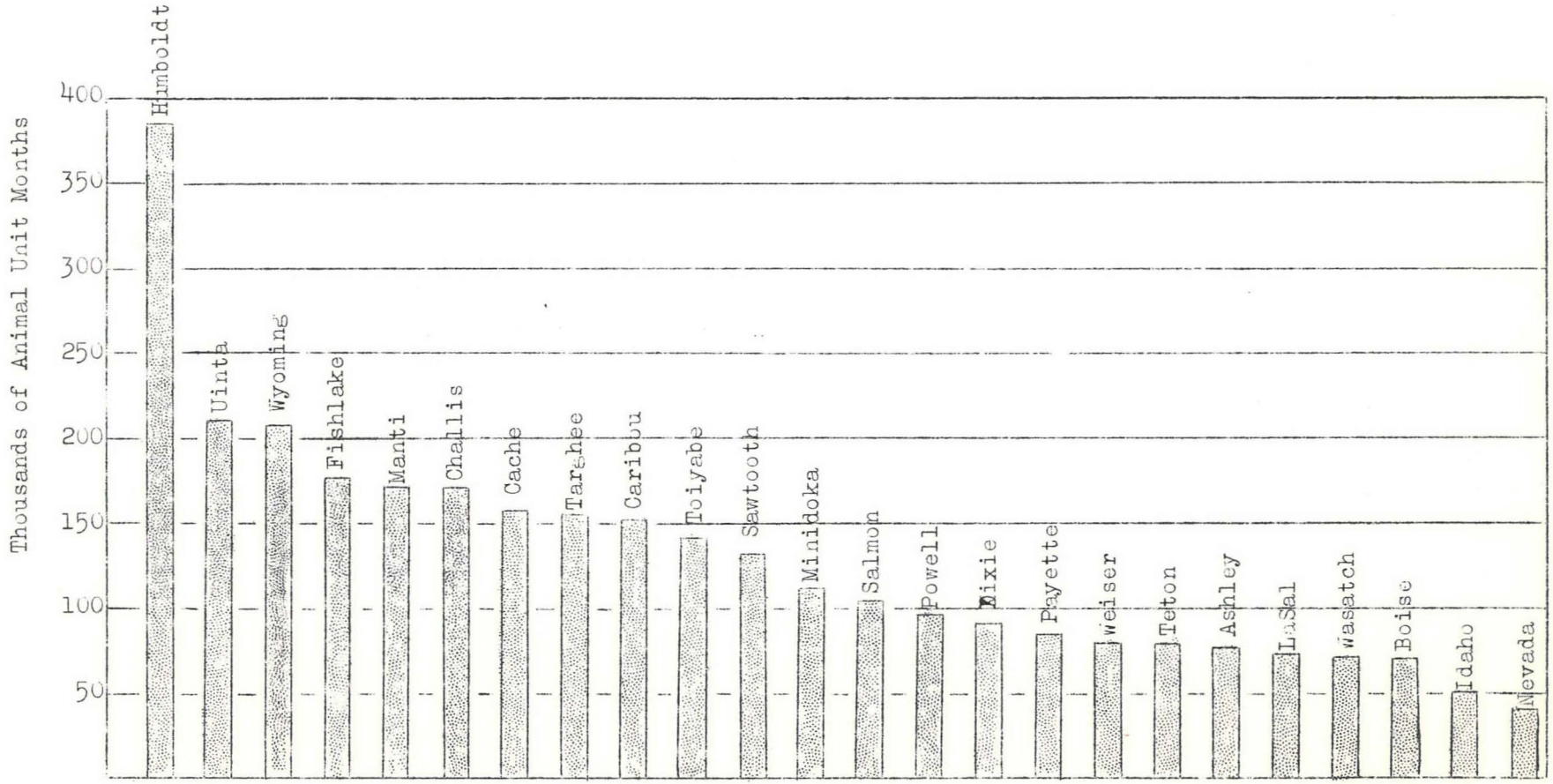


Figure 22. Cattle Months of Permitted Use on the National Forests of Region 4, 1938.

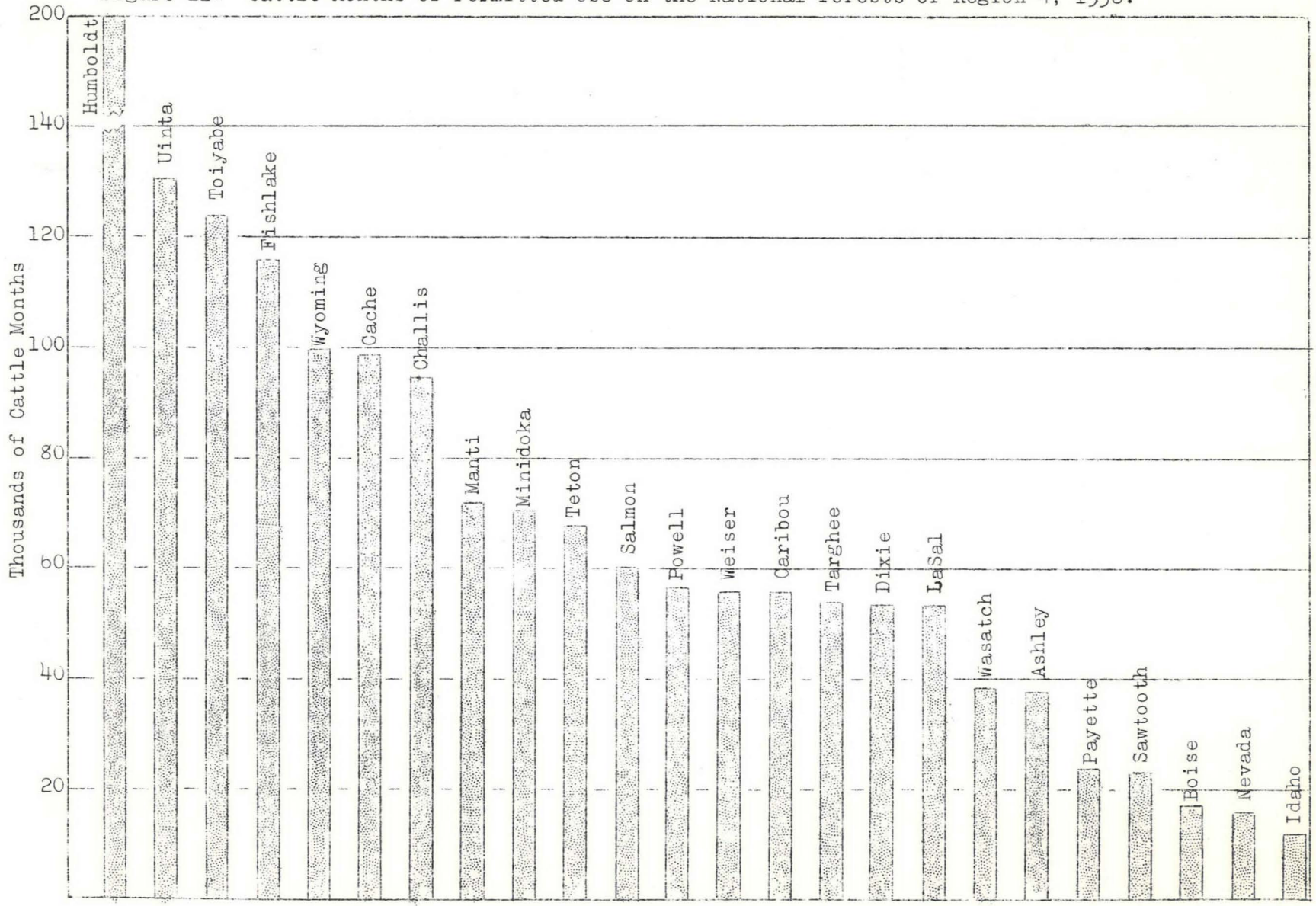


Figure 23. Sheep Months of Permitted Use on the National Forests of Region 4, 1938.

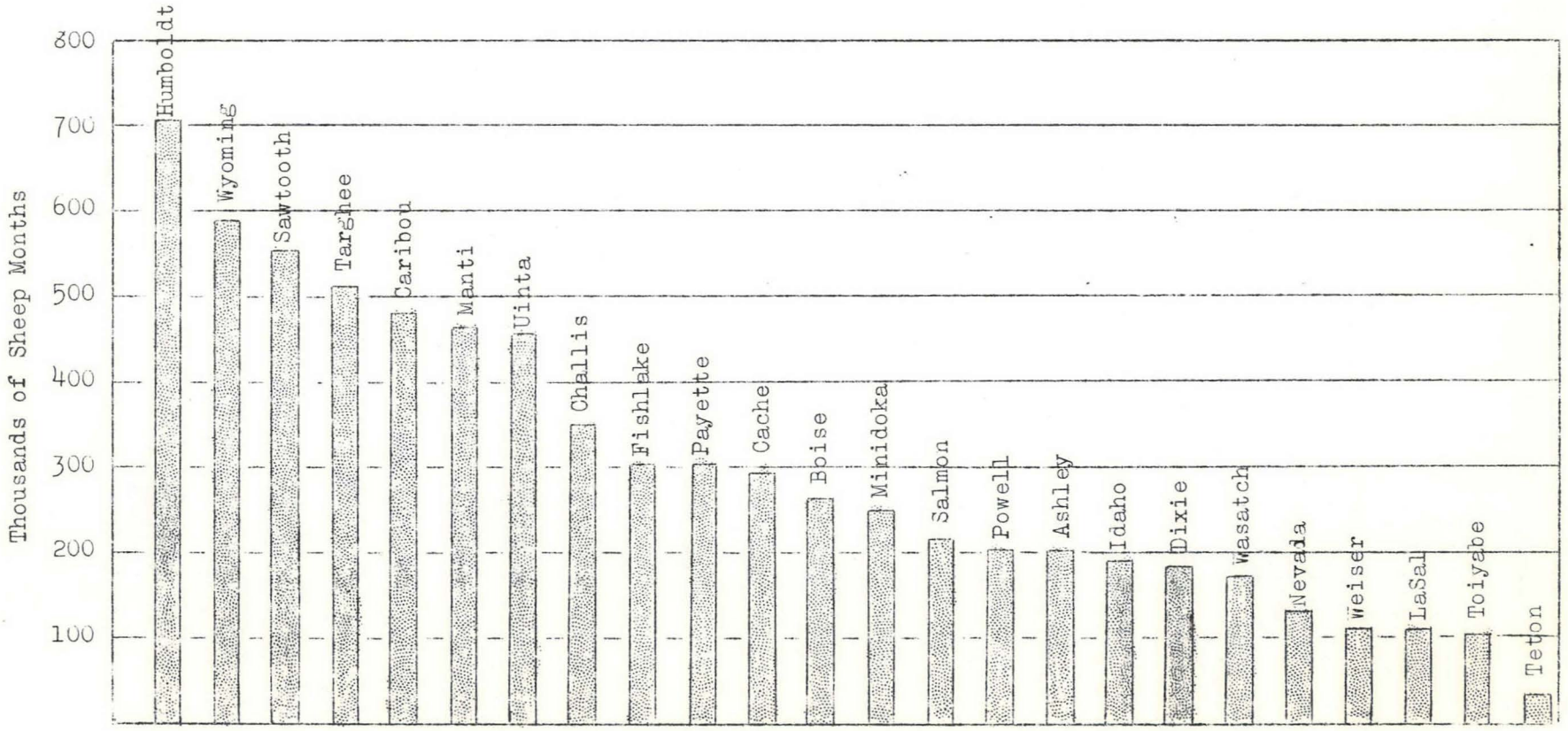
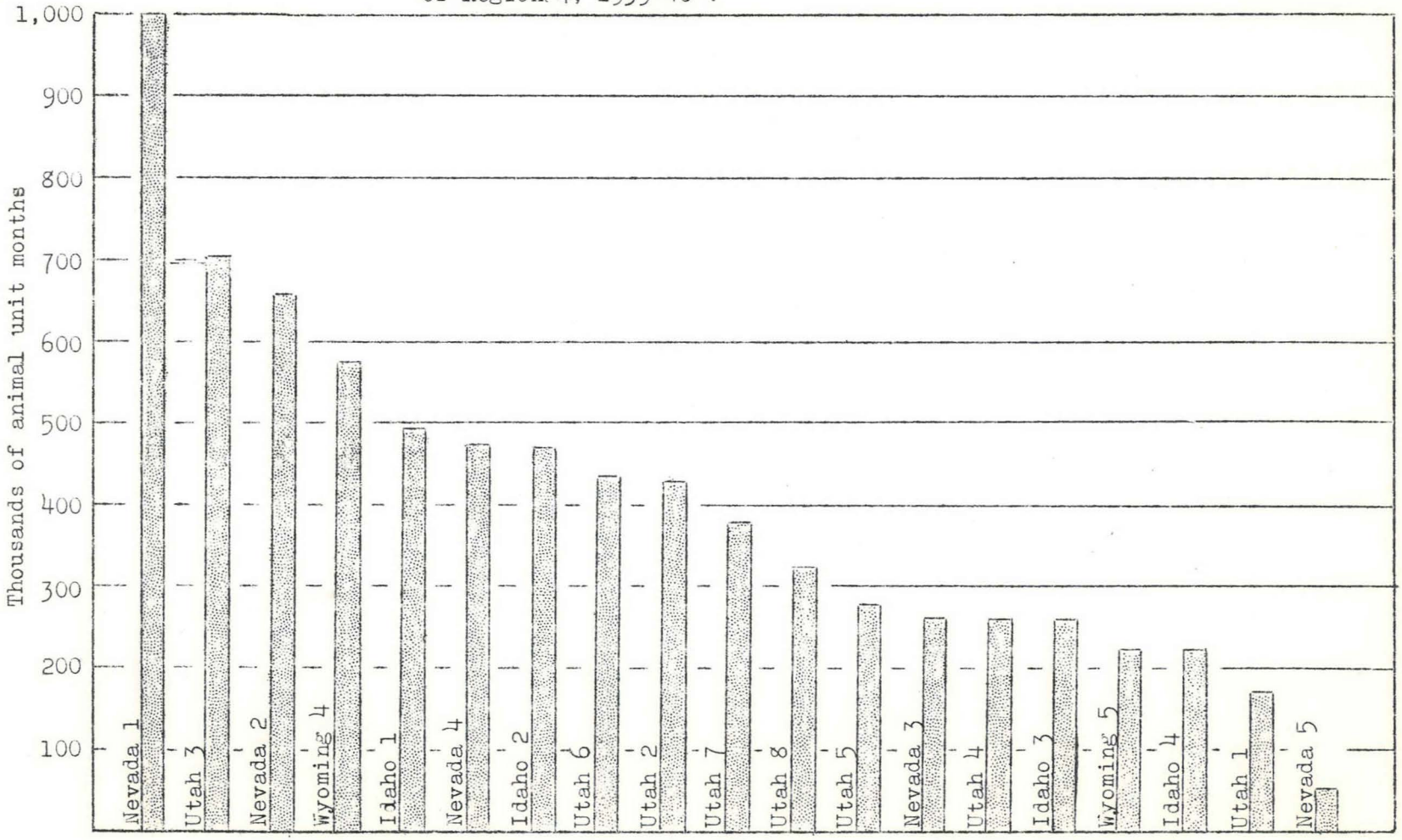
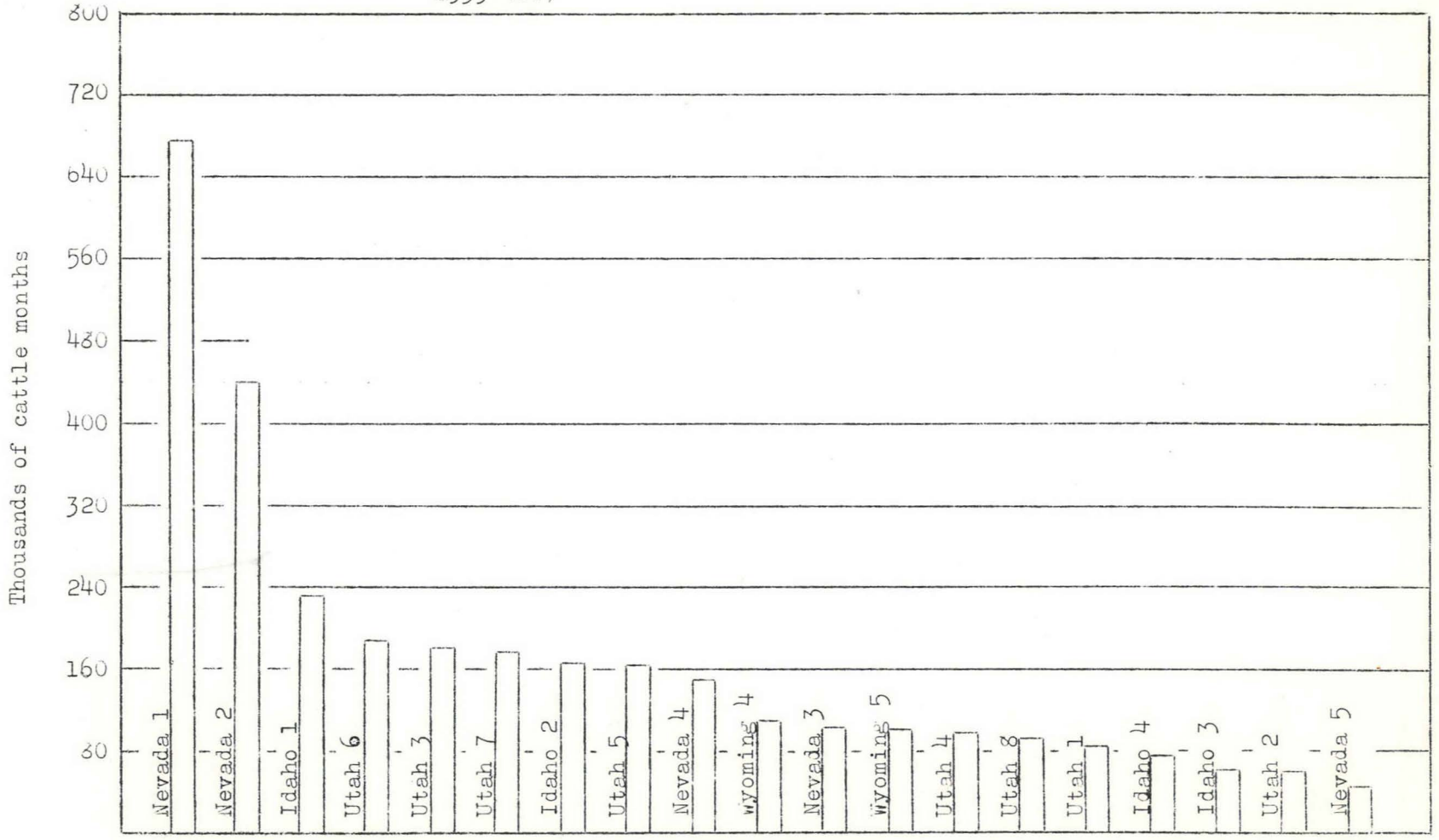


Figure 24.- Total animal unit months of permitted grazing on the grazing districts of Region 4, 1939-40*.



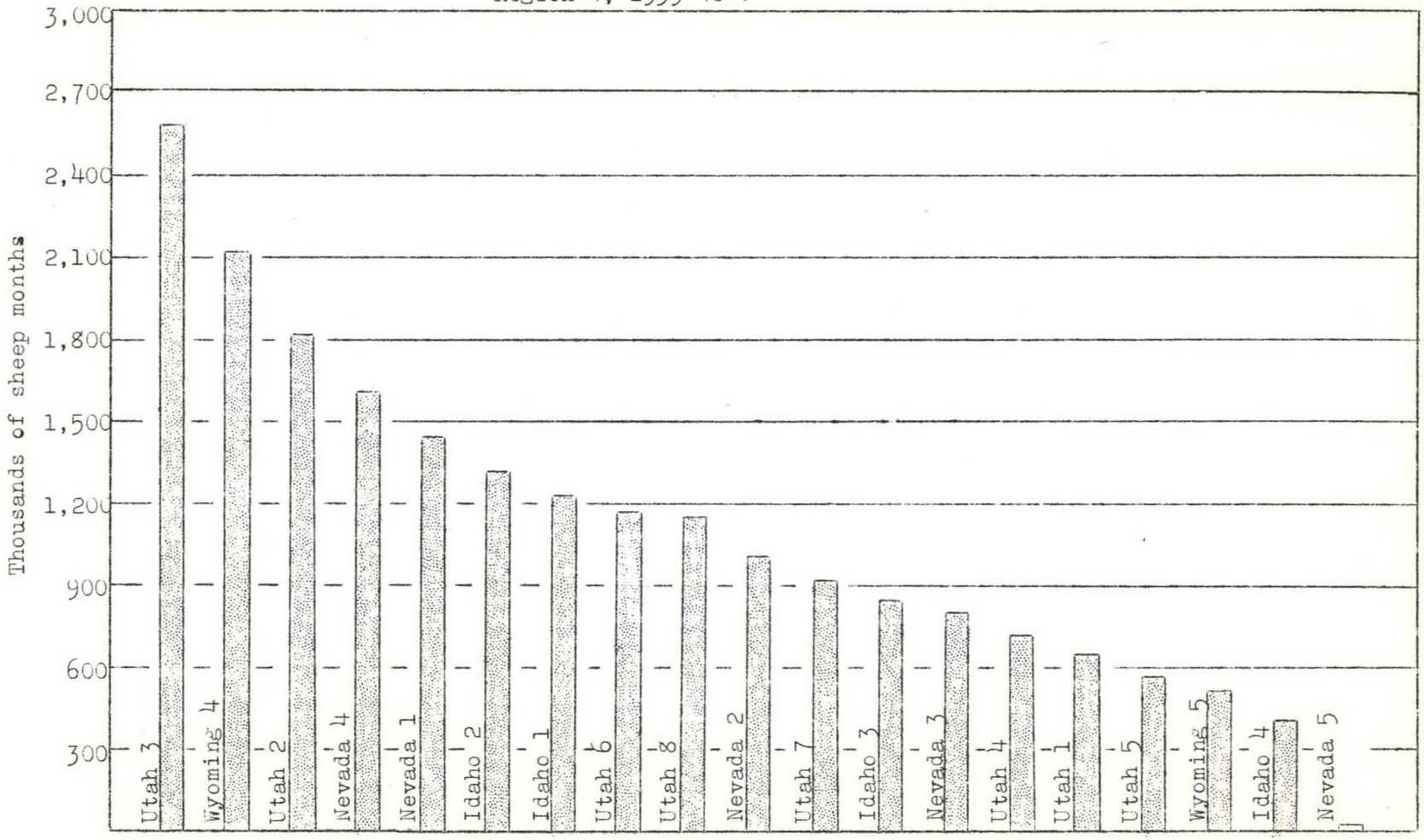
* Based on 1939-40 grazing district license data; sheep numbers divided by five.

Figure 25.- Cattle months of permitted grazing on the grazing districts of Region 4, 1939-40.*



* Based on 1939-40 grazing district license data.

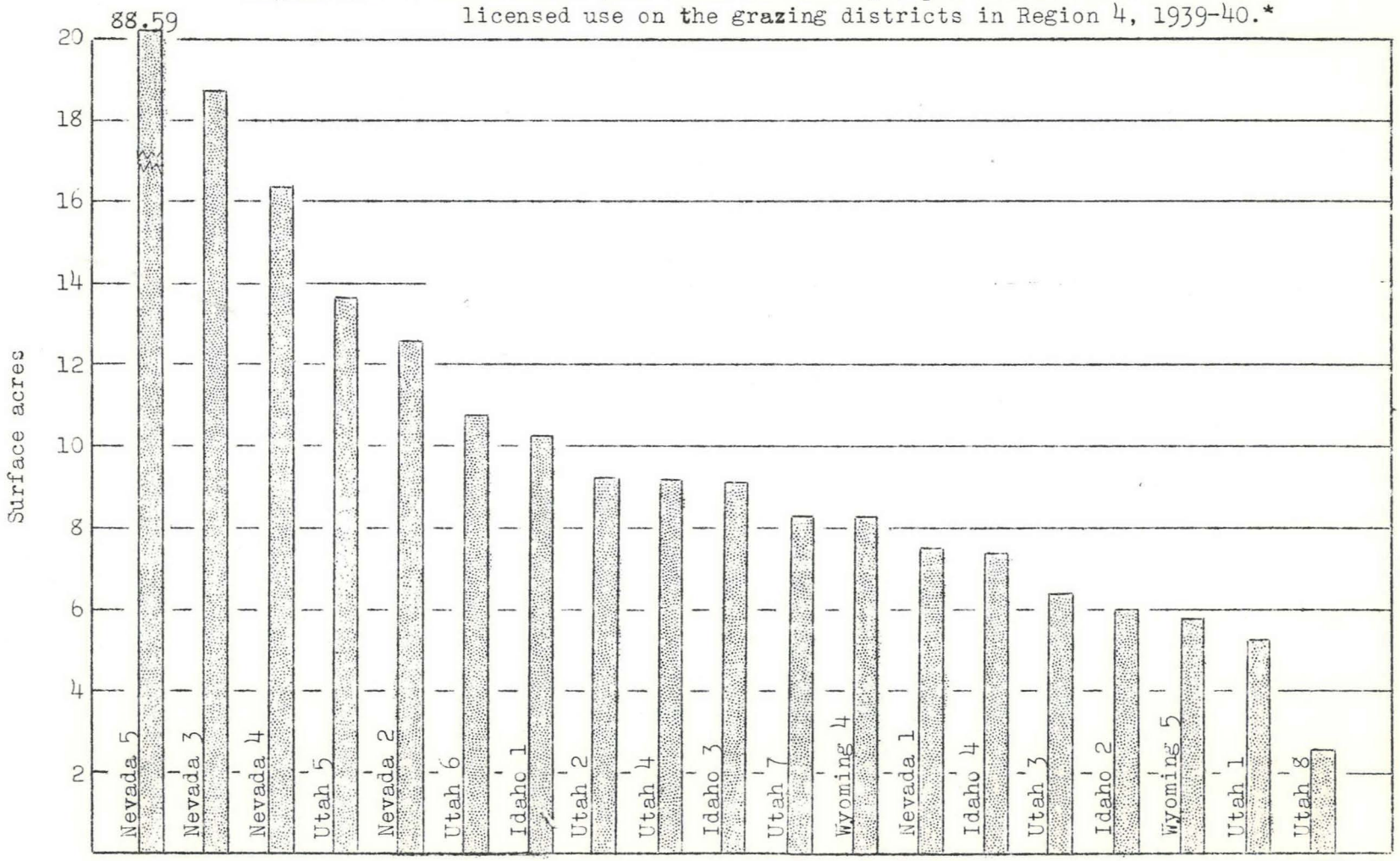
Figure 26.- Sheep months of permitted grazing on the grazing districts of Region 4, 1939-40*.



* Based on 1939-40 grazing district license data.

Figure 27. Surface acres of useable range per animal unit month of use on the national forests of Region 4, 1938.

Figure 28.- Surface areas (for total net acreage) per animal unit month of licensed use on the grazing districts in Region 4, 1939-40.*



* Based on data shown in figures 16 and 24.

Figure 29. Animal Units of Sheep and Cattle Grazed on the National Forests of Region 4.

There was a considerable shift of use from cattle to sheep on the forests of the region from 1924 to 1930. Since 1930 the trend of both cattle and sheep use has been down.

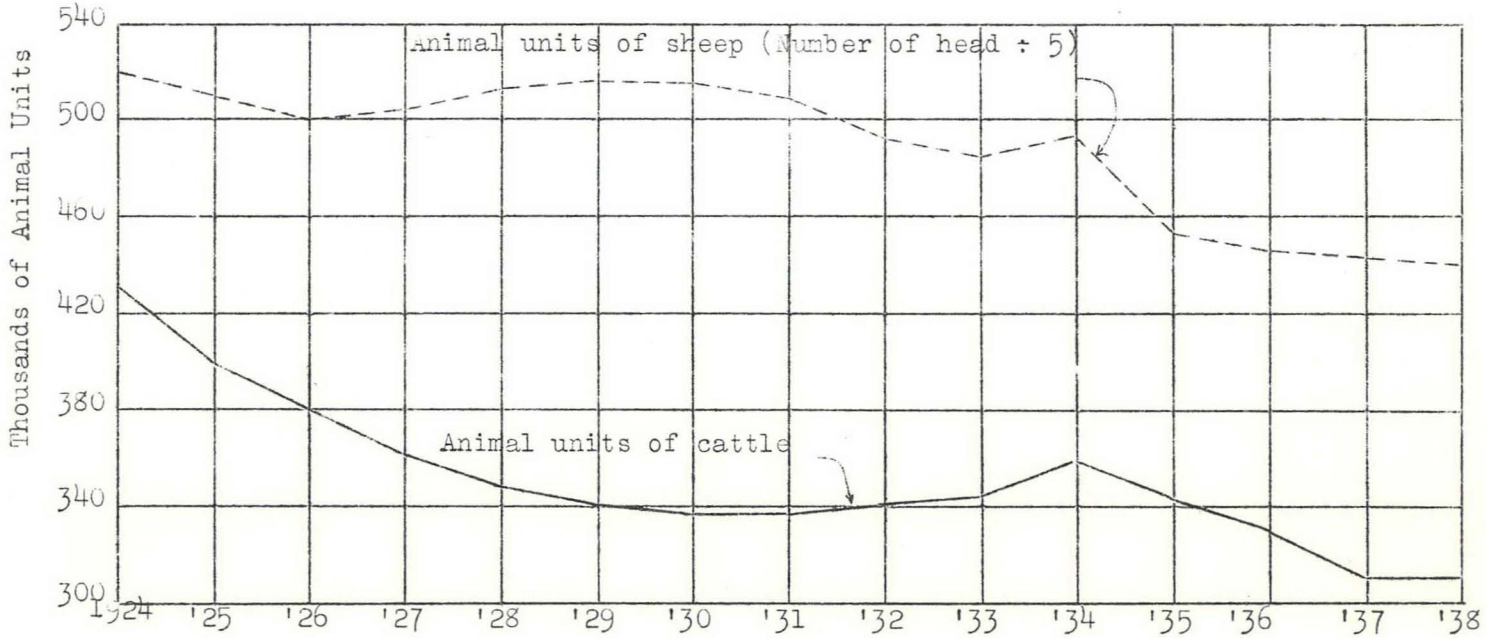


Figure 30. Animal unit months grazed on the National Forests of Region 4, 1924 to 1938.

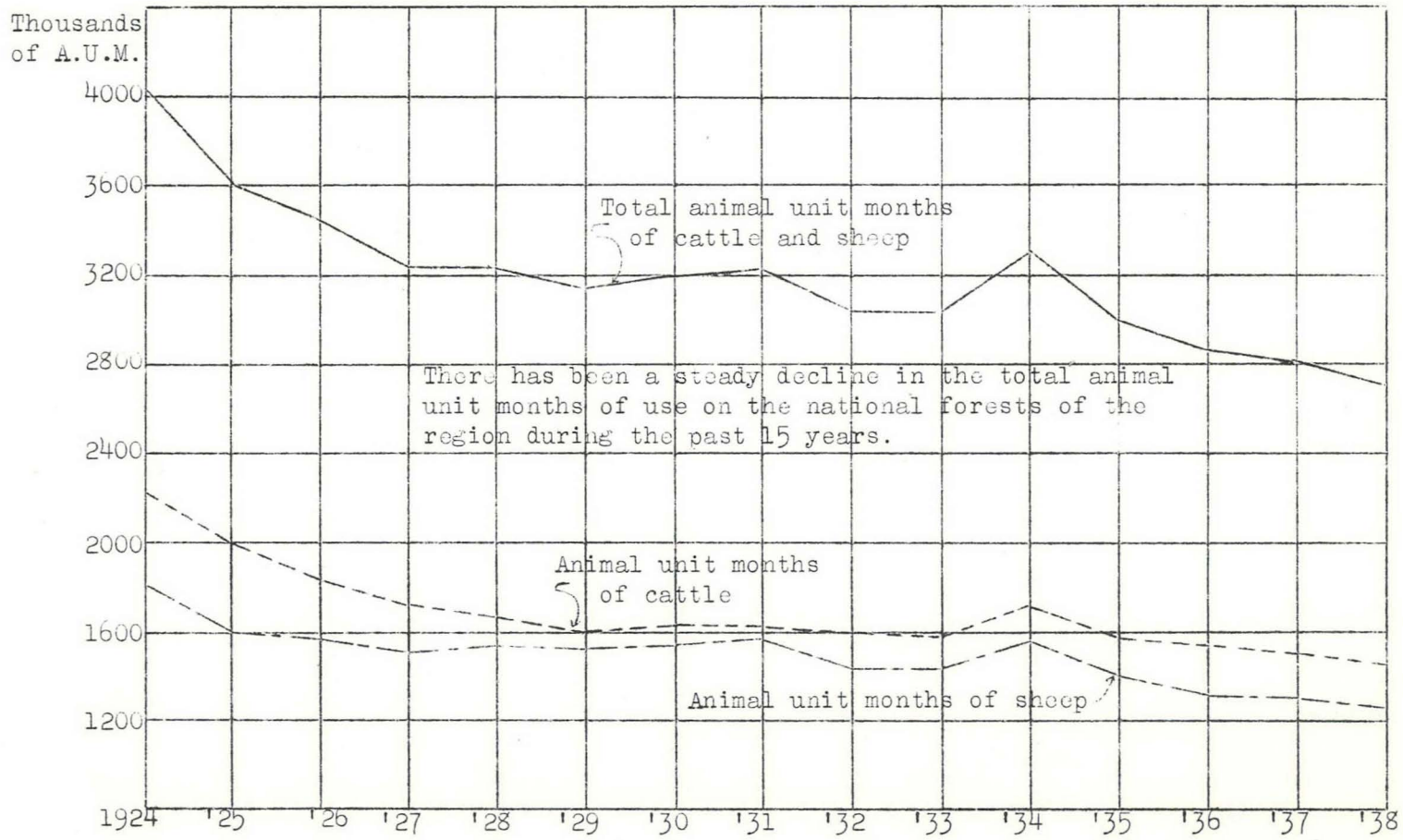


Figure 31. Permitted use and actual use in months for cattle on the national forests of Region 4, 1924 to 1938.

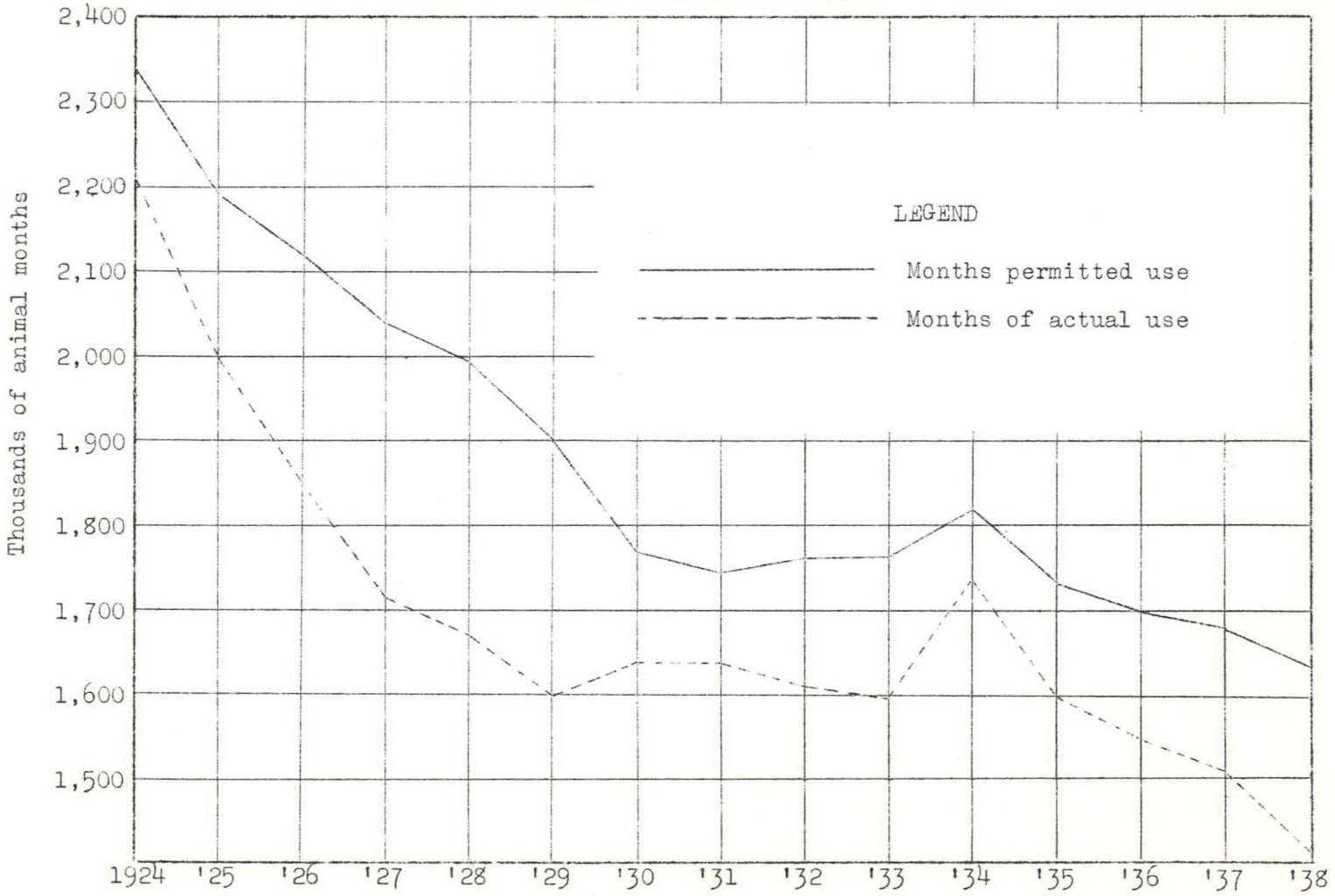


Figure 32. Permitted use and actual use in months for sheep on the national forests of Region 4, 1924 to 1938.

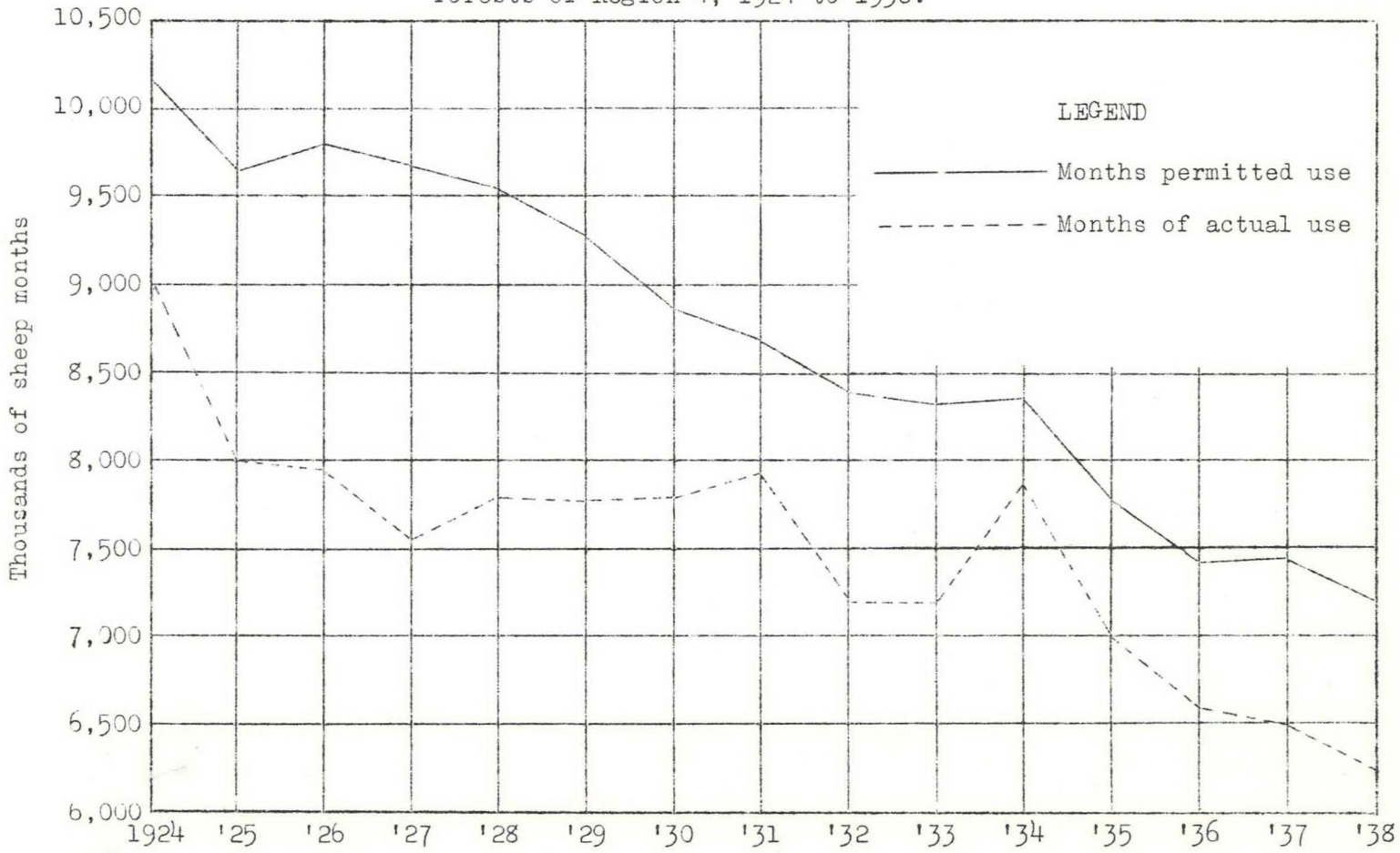


Figure 33. Permitted and actual grazing seasons for cattle and sheep on the national forests of Region 4, 1924 to 1938.

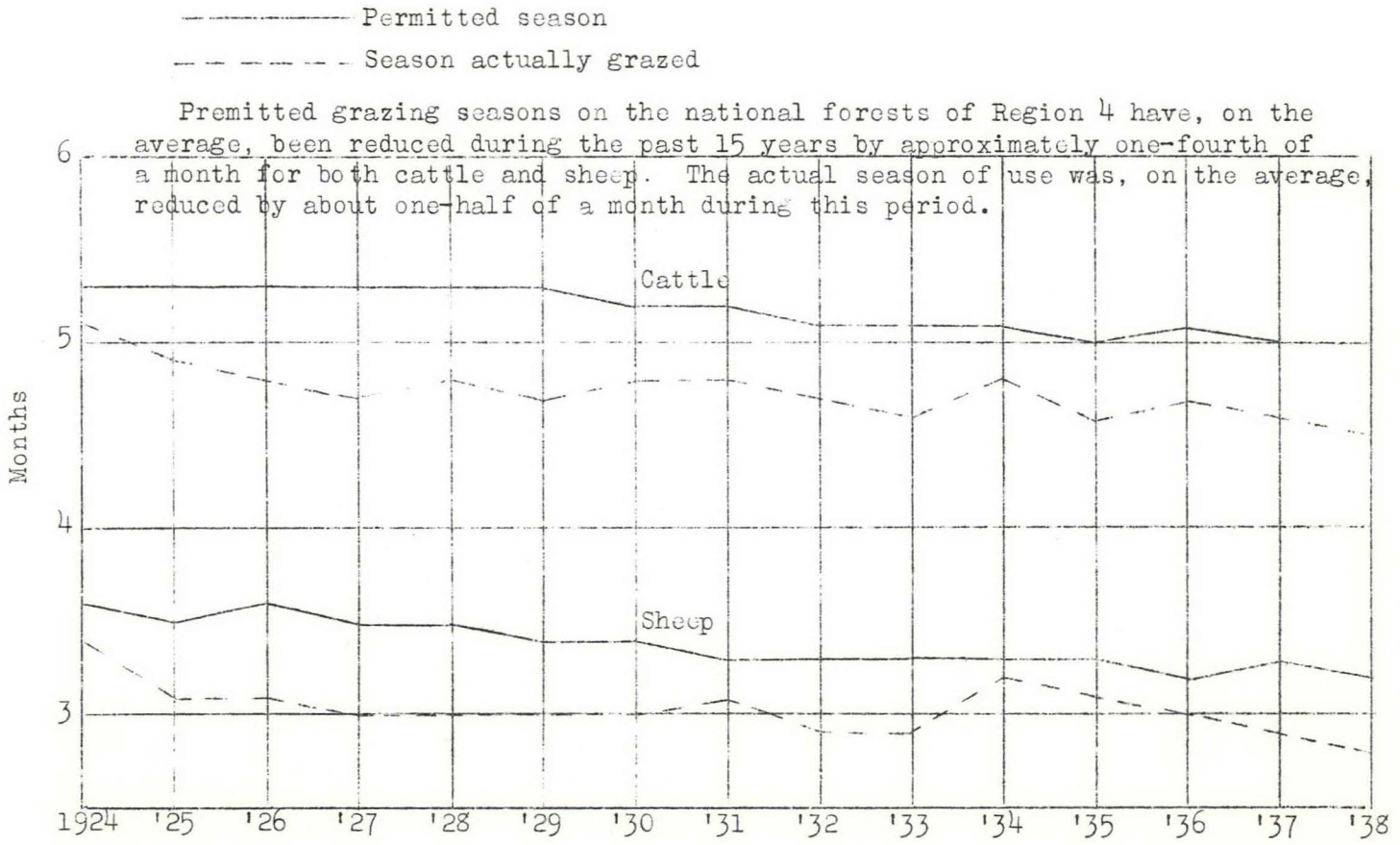


Fig. 34. Numbers of cattle permitted and actually grazed on the National Forests of Region 4, 1924 to 1938.

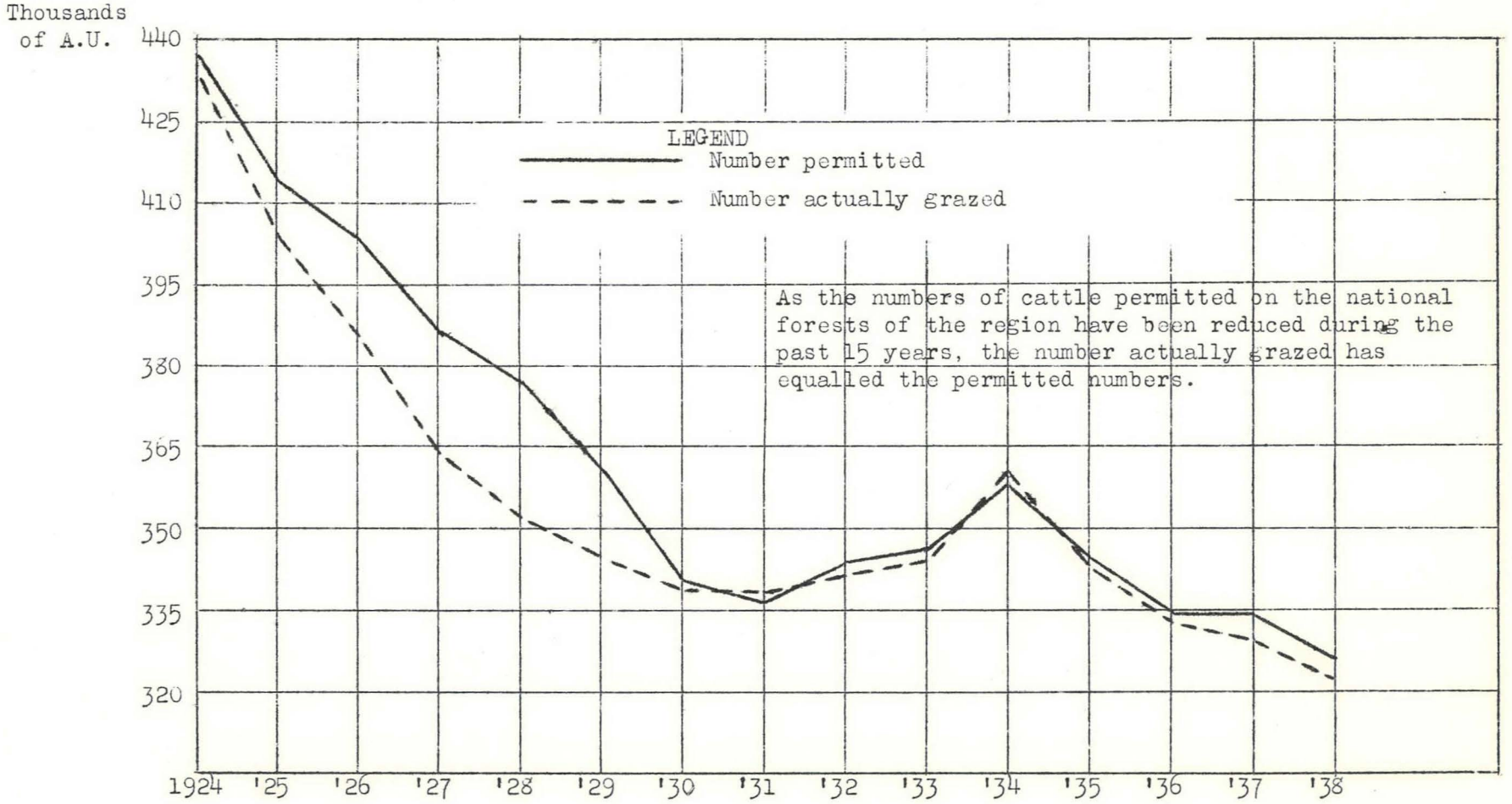


Fig. 35. Numbers of sheep permitted and actually grazed on the National Forests of Region 4, 1924 to 1938.

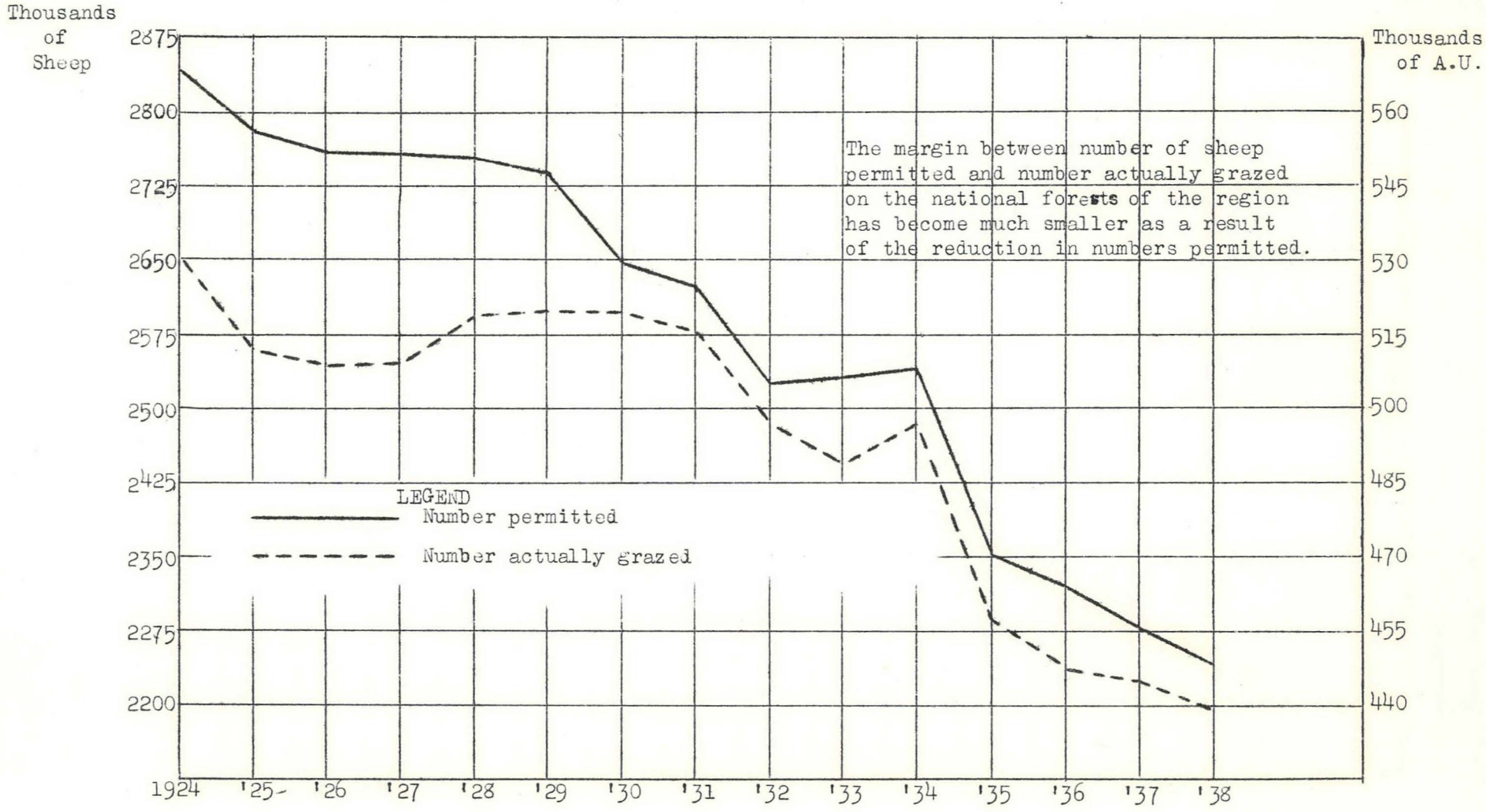


Figure 36. Census of cattle numbers and numbers permitted on the National Forests of Region 4, 1910 to 1935.

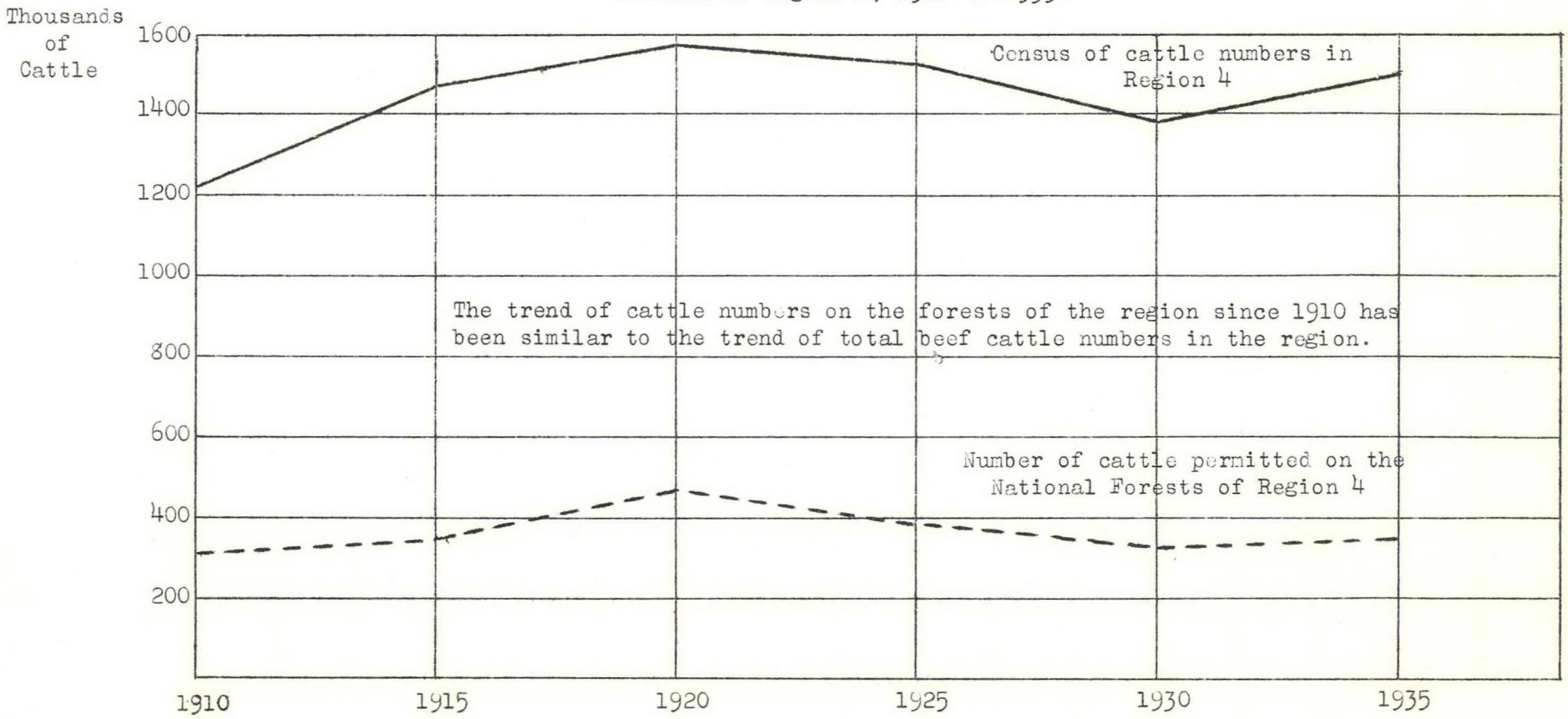


Figure 37. Census of sheep numbers and numbers permitted on the National Forests of Region 4, 1910 to 1935.

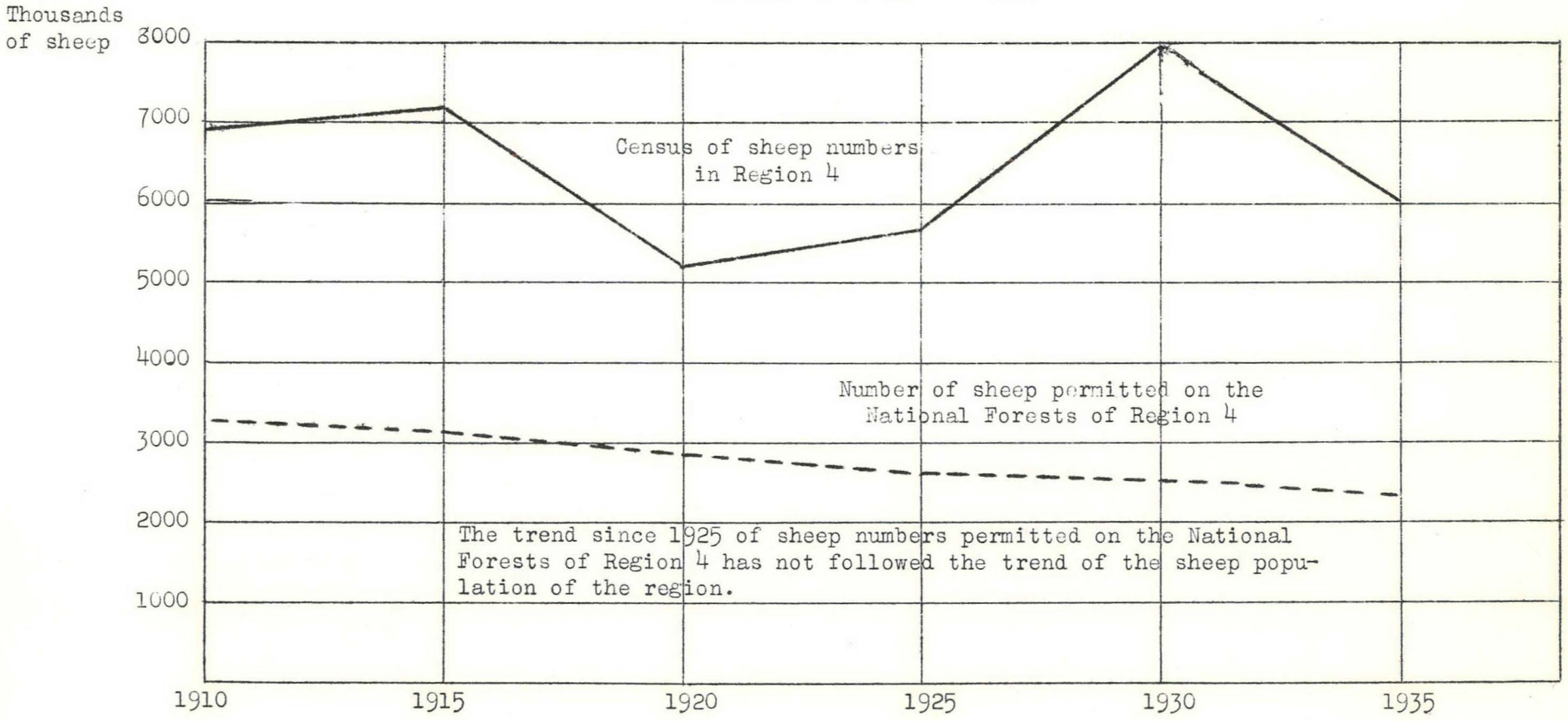


Figure 38.- Number of farms and number of cattle and sheep permittees on the National Forests of Region 4, 1910 to 1935.

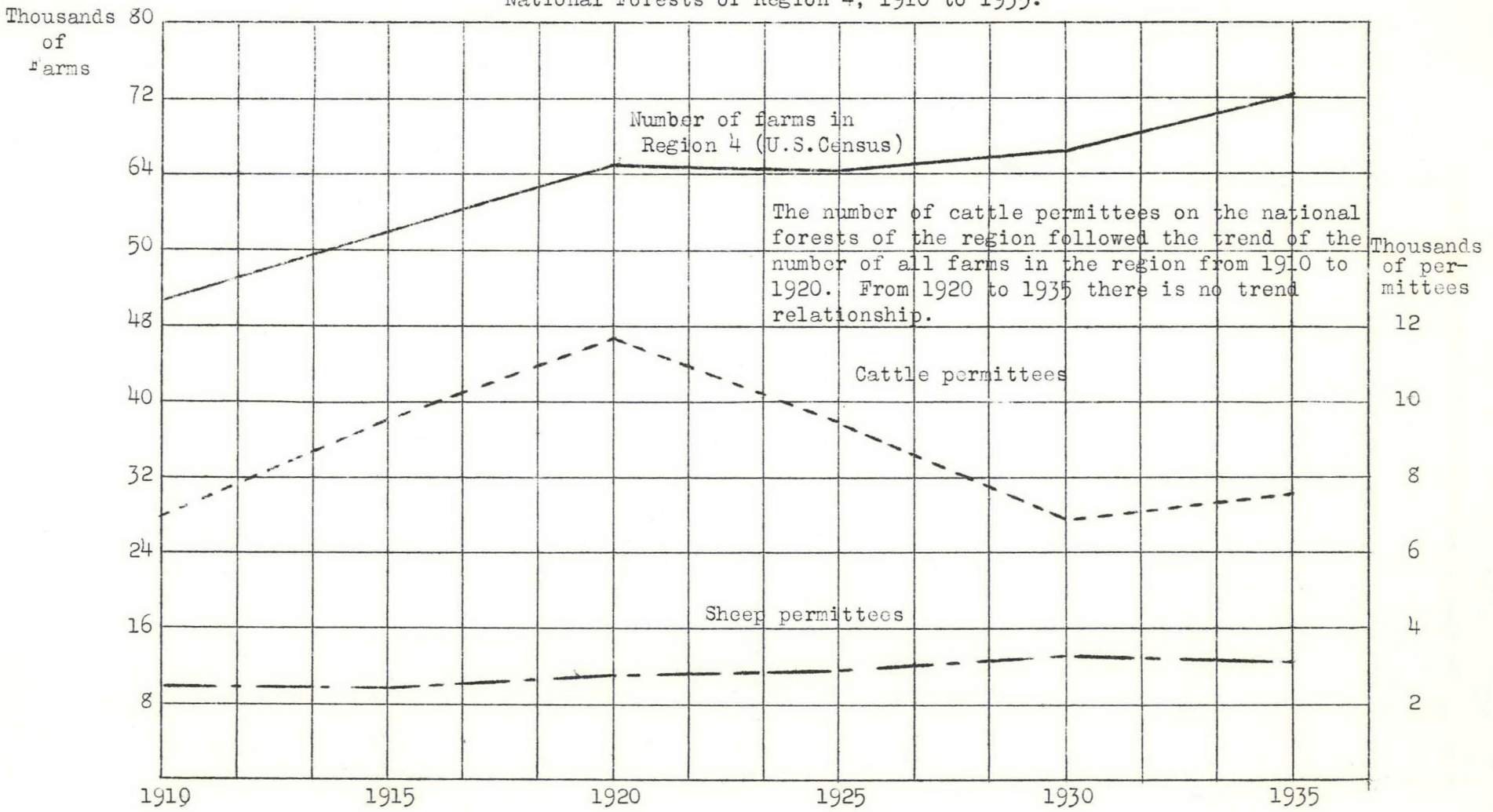


Figure 39.- Trend in the percent of cattle permits and cattle numbers on the national forests of Region 4 in the permit size class 1 to 40 head.

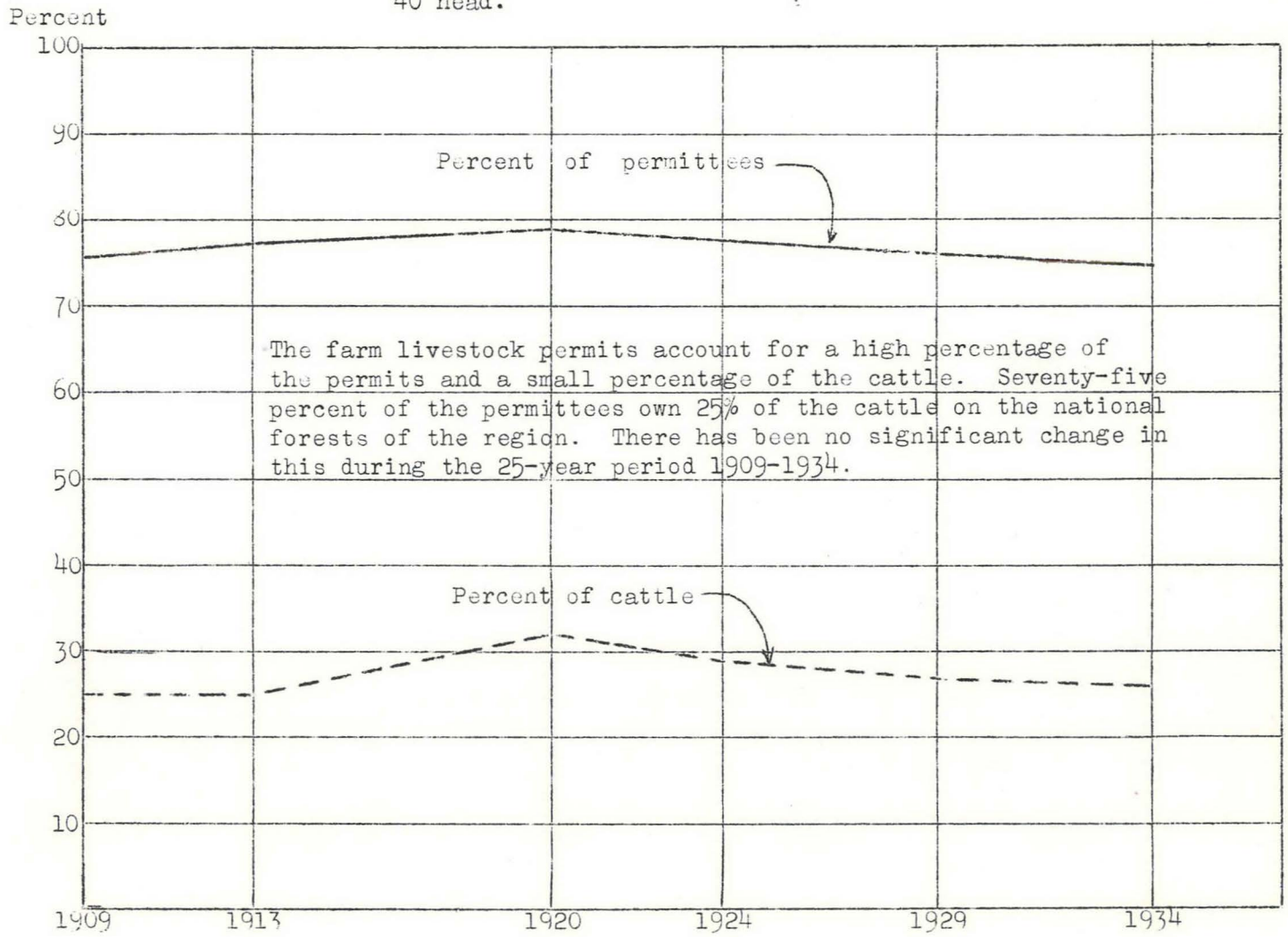


Figure 40. Trend in the percent of cattle permits and cattle numbers on the National Forests of Region 4 in the permit size class 41 to 100 head.

The larger farm beef cattle enterprise and the small stock ranches account for ten percent of the permittees and twenty percent of the cattle on the national forests of the region.

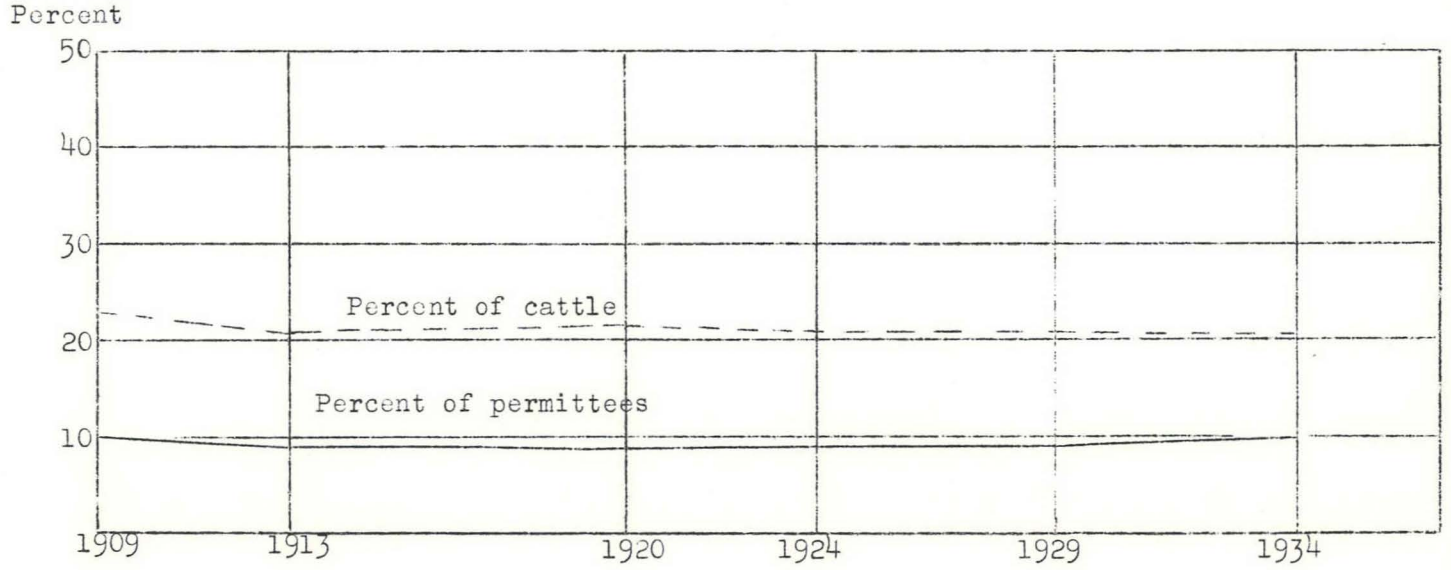


Figure 41.- Trend in the percent of cattle permits and cattle numbers on the national forests of Region 4 in the permit size class 101 to 200 head.

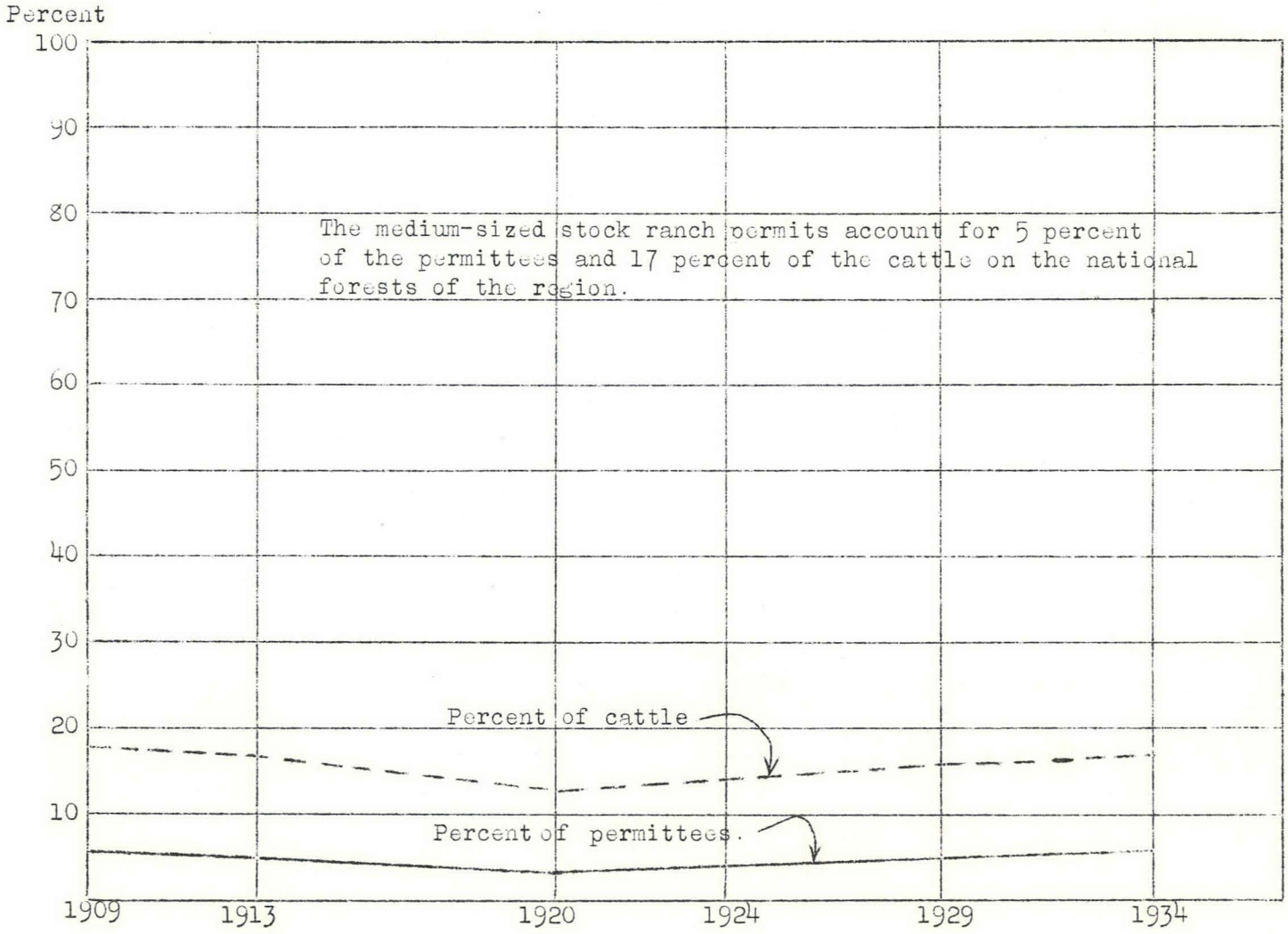


Figure 42.- Trend in the percent of cattle permits and cattle numbers on the national forests of Region 4 in the permit size class over 200 head.

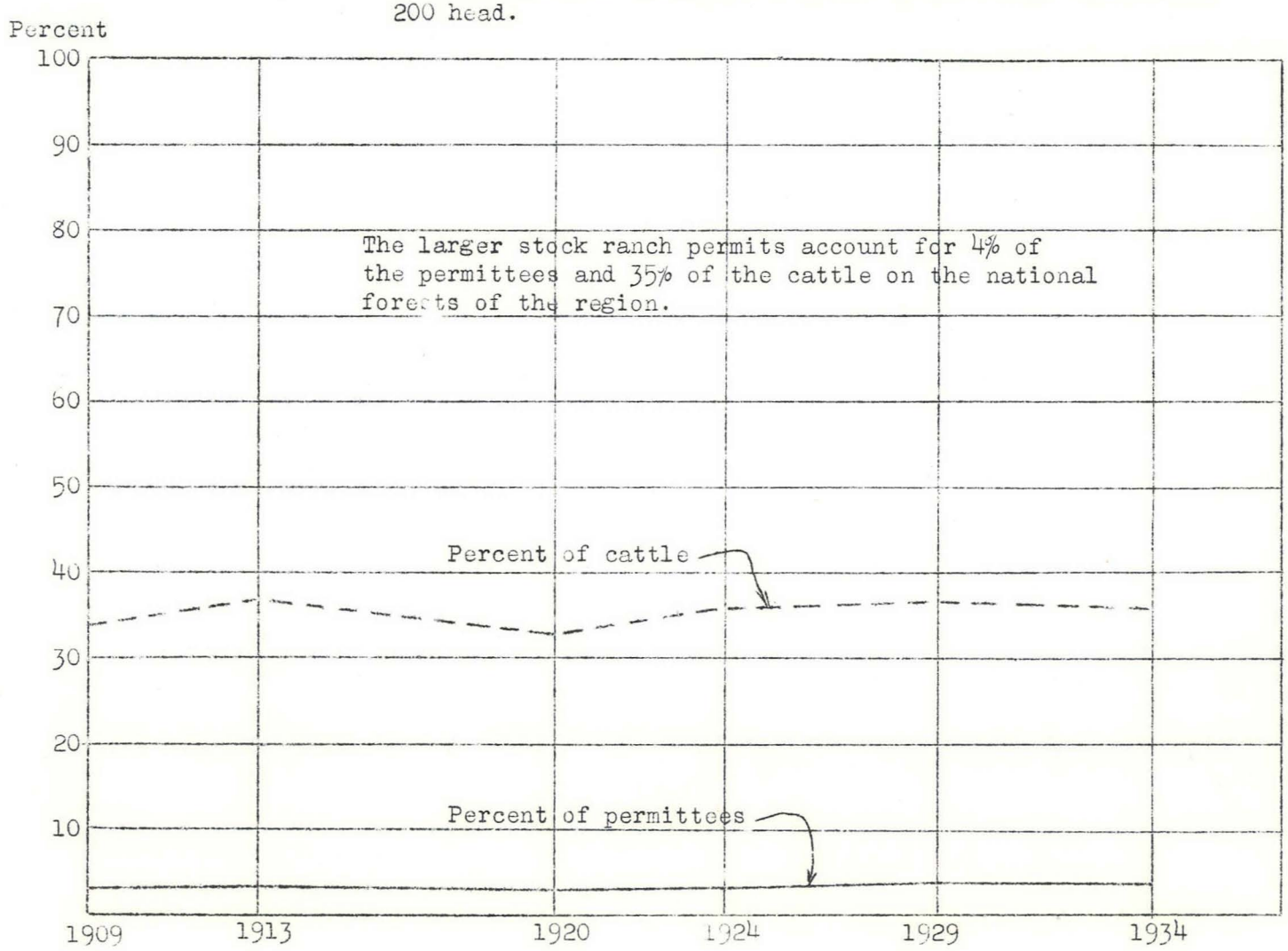


Figure 43.- Average size of cattle permits on the National Forests of Region 4, 1924 to 1938.

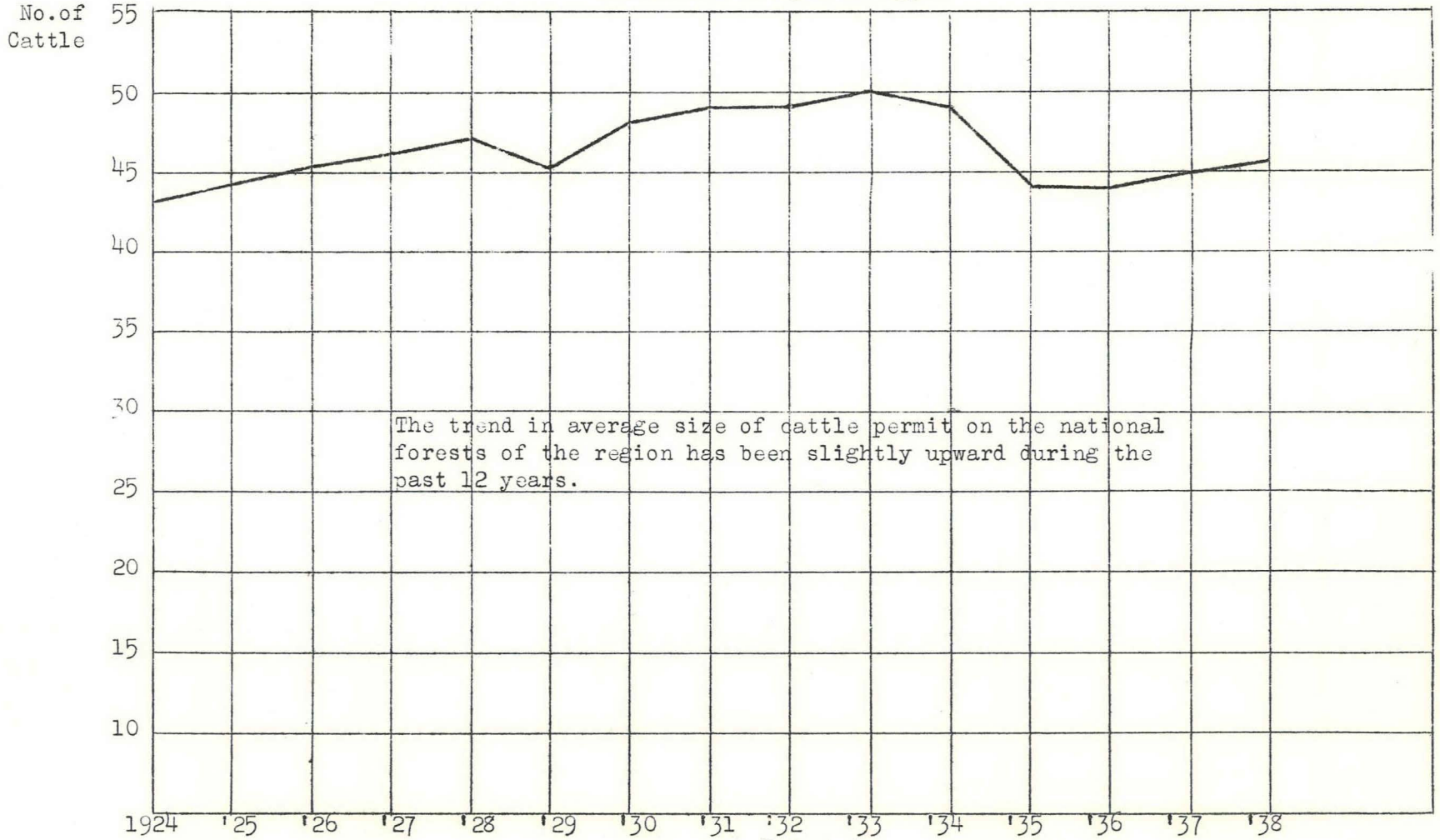


Figure 44.- Trend in the percent of sheep permits and sheep numbers on the national forests of Region 4 in the permit size class 1 to 1,000 sheep.

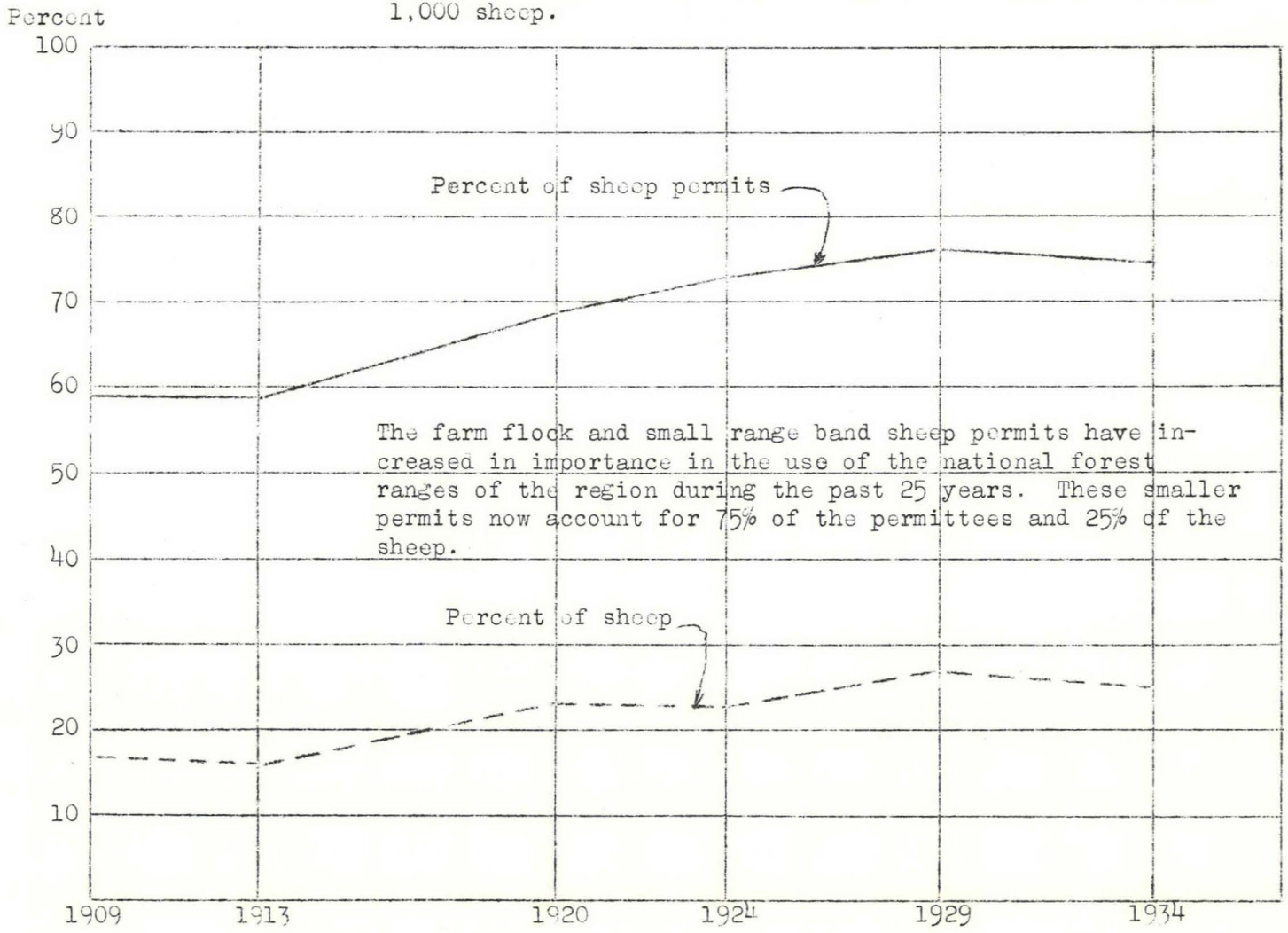


Figure 45.- Trend in the percent of sheep permits and sheep numbers on the national forests of Region 4 in the permit size class 1,001 to 2,500.

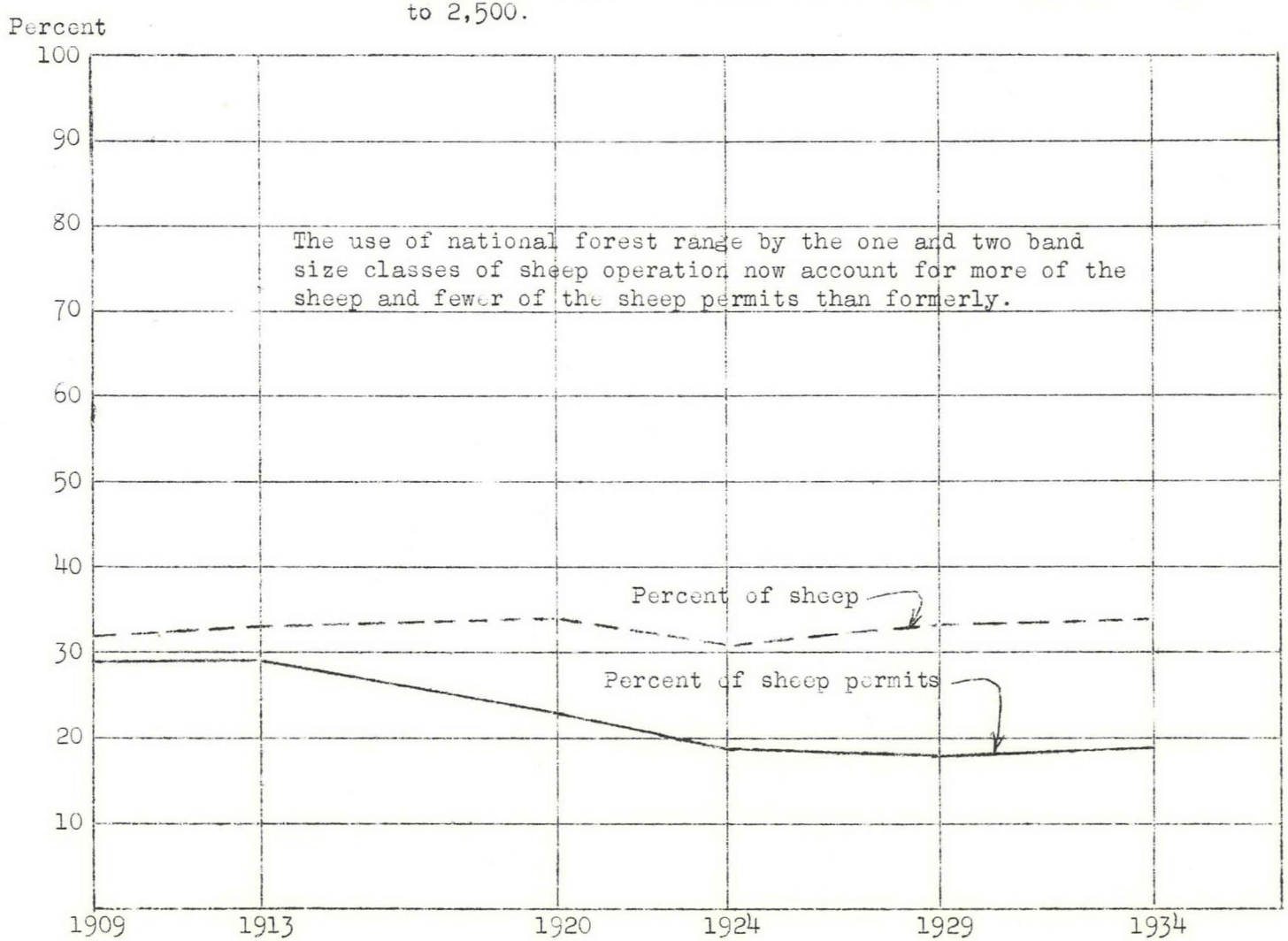


Figure 46.- Trend in the percent of sheep permits and sheep numbers on the national forests of Region 4 in the permit size class 2,501 - 4,000.

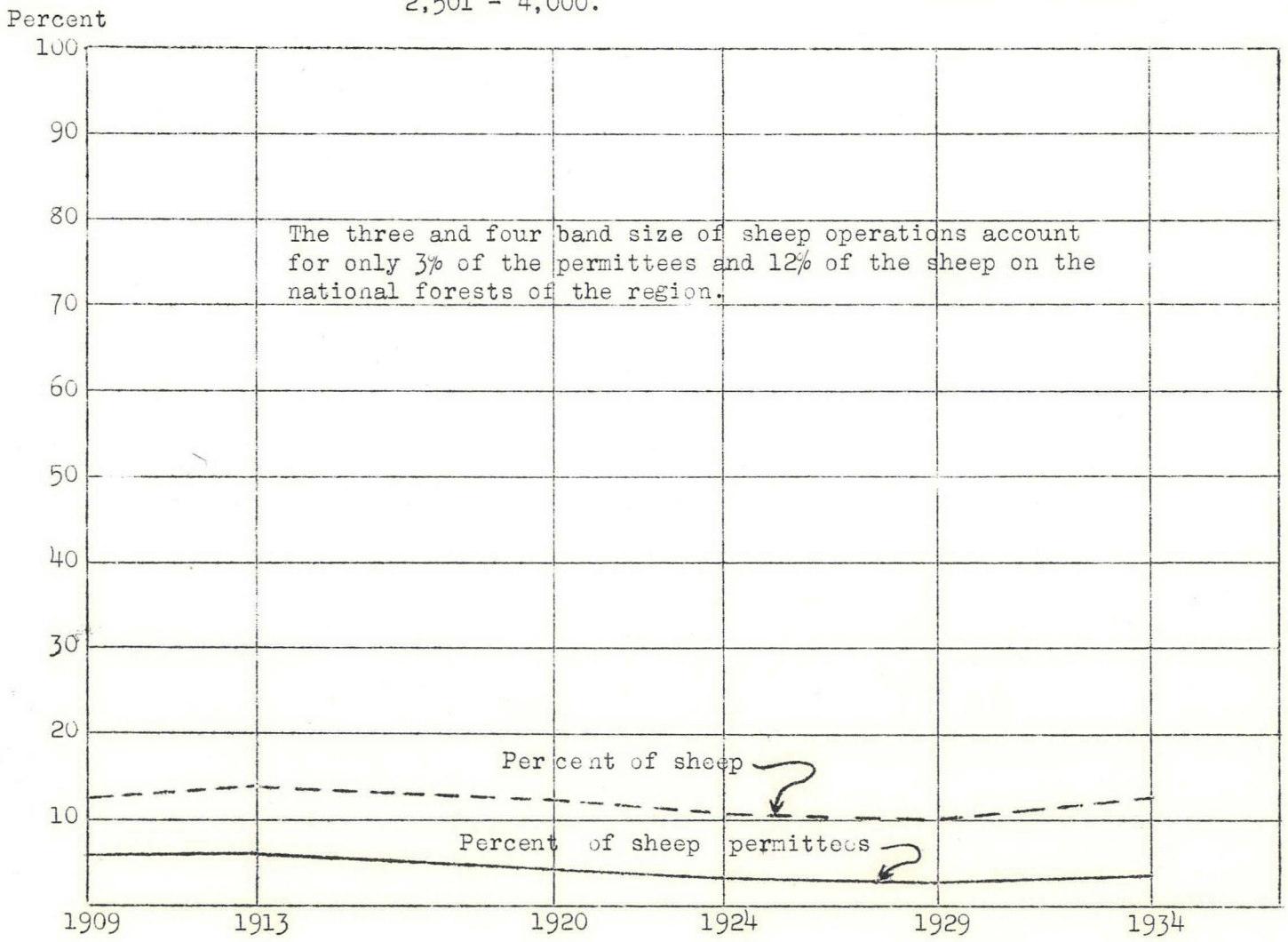


Figure 47.- Trend in the percent of sheep permits and sheep numbers on the national forests of Region 4 in the permit size class 4,000 and over.

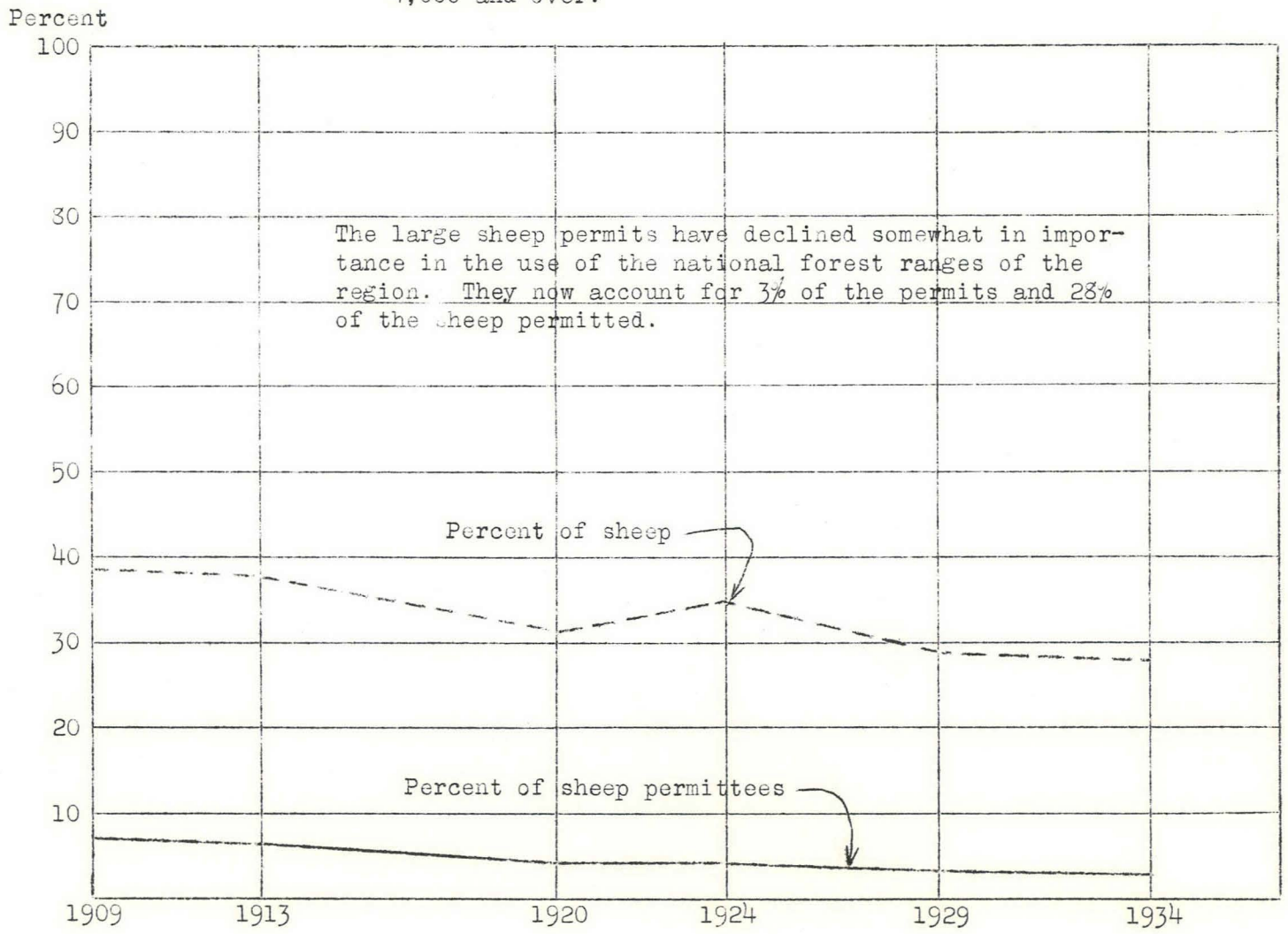


Figure 48. Average size of sheep permits on the National Forests of Region 4, 1924 to 1938.